



RISOGRAPH

CR1630/1610

USER'S GUIDE

RISO

020-01029-005

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FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

CONTENTS

Welcome to the RISOGRAPH CR1630/CR16104

Introduction to Your RISOGRAPH

Cautions Concerning Installation	5
Location and Environment	5
Power Connections	5
Overview of Features	5
Knowing the Parts and Components	6
Upper Area	6
Paper Feed Area	6
Master-Making Area	7
Front Area	7
Paper Receiving Area	7
The Control Panel	8
Main Control Panel	8
Sub-Control Panel	9

Getting Ready to Use Your RISOGRAPH

Paper Recommendations	10
Size and Weight Restrictions	10
Guides for Trouble-Free Use	10
Storing Environment	10
Originals	11
Size and Weight Restrictions	11
Preparing to Print	12
Setting Up the Paper Feed Tray	12
Adding or Replacing Paper	12
Setting Up the Paper Receiving Tray	13
Closing the Paper Receiving Tray	13

Basic Features

Cautions Concerning Handling and Operation	13
Basic Processes	14
Basic Operation	14
Photo/Half-Tone Processing F-1	16
Producing Proof Copies F-2	16
Automatic Printing F-3	17

Handy Features

Reducing Originals F-4	18
Changing Image Contrast on Prints F-5	18
Repositioning the Print F-6	19
Adjusting Vertical Print Position	19
Adjusting Horizontal Print Position	19
Changing Print Speed F-7	20
Return to Initial Settings F-8	20

Special Features

Printing Originals Side by Side	21
Printing Two Different Originals 2-Up/4-Up F-9	21
Printing the Same Original 2-Up/4-Up F-10	22
Automatic Sorting into Groups F-11	23
Customizing the Initial Settings F-12	25
Changing Print Color F-13	26
Changing Print Cylinders (Drums)	26
Protecting Confidential Documents F-14	27
Interfacing with a Computer F-15	27

Replenishing and Disposing Supplies

Replacing the Ink Cartridge	28
Replacing the Master Roll	29
Emptying the Master Disposal Box	30

Advisory Displays	
Index.....	31

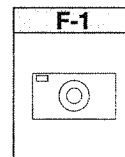
Troubleshooting Tips	
Tips List.....	34

Maintenance	
Cautions Concerning Maintenance.....	36
Cleaning : Preventing Defective Prints	36
Cleaning the Thermal Print Head	36
Cleaning the Scanner Glass.....	36
Cleaning the White Sheet.....	37
Cleaning the Pressure Roller.....	37
Cleaning the RISOGRAPH Exterior	37

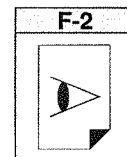
Appendices	
Optional Accessories	37
Specifications – CR1630	38
Specifications – CR1610	38

Index	
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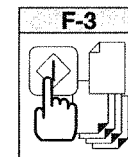
Pictorial Contents of Features



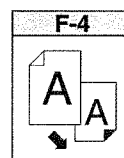
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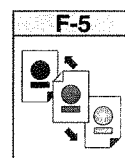
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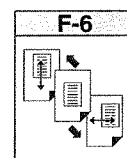
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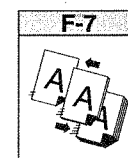
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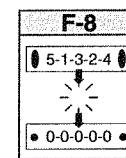
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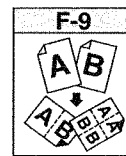
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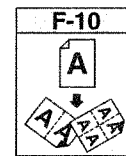
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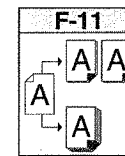
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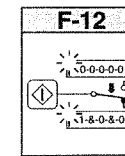
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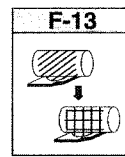
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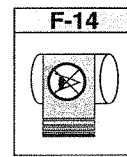
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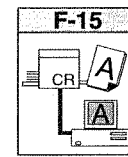
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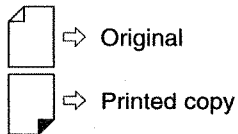
Welcome to the RISOGRAPH CR1630/CR1610

With its easy-to-read digital display and key entry for most procedures, this equipment has been specially designed for simple operation.

About This User's Guide

This Guide provides all the required information necessary to use your RISOGRAPH CR1630/CR1610. It is designed to help you take advantage of the features built into the RISOGRAPH CR1630/CR1610, and provides information on maintenance and troubleshooting.

[Pictorial Guide]



Pictorial Description

Describes a feature available in CR1630/CR1610 with a picture.

Panel Highlight

Indicates the key and/or indicator to be used or referred to during operation.

Operation Instruction

Describes operation procedures with simple numbered steps.

Automatic Printing

If you do not need to check the print samples before making prints, press the AUTO PRINT key before pressing the START key to activate the Auto Print feature. This feature enables non-stop operation from master-making through printing.

NOTE If you need to check or adjust the print position, cancel the Auto Print feature by pressing the AUTO PRINT key again.

- 1 Press the AUTO PRINT key.**
The Auto Print indicator lights.
- 2 Set an original in place.**
Insert an original face-down into the ADF Unit until it stops. A maximum of 10 originals can be set at one time.
- 3 Enter the number of copies to be printed.**
NOTE If you enter a number incorrectly, press the C key to reset the Print Quantity Display to "0", then enter the correct number.
NOTE If "0" is selected as the print quantity, the machine will not start.
- 4 Press the START key.**
The specified number of copies are produced with an extra proof copy.
NOTE Holding down the R-9 (ALL RESET) key longer than one second returns the Auto Print feature to the initial setting.
⇒ p.25 You can customize initial settings.

Cross-reference Remark

Indicates other sections of the User's Guide where you can find related descriptions.

36
Maintenance

Cautions Concerning Maintenance

- WARNING** [To Avoid Personal Injury During Handling]
- DO NOT allow unauthorized persons to make adjustments or repairs.
 - DO NOT remove any faced covers.
 - CALL your dealer immediately if you suspect any dangerous situations or have questions or problems with the unit.
 - Precision parts and driving mechanisms are contained in the unit. Do not perform actions other than those described in this manual.
 - Don't make any modifications to the unit or remove parts.
 - When you want to move the unit, contact your dealer.
- Caution** [To Avoid Mechanical Problems]
- The belt safety device is an alert person who demonstrates good sense.
 - Neither RISOH nor its dealer is responsible for maintenance service performed by non-RISOH-authorized personnel.

Safety Remark

Gives you safety instructions under the following icons:



Caution



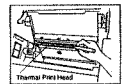
WARNING

Cleaning : Preventing Defective Prints

Cleaning the Thermal Print Head

Clean the Thermal Print Head after every two Master Prints.

NOTE For more effective cleaning, dampen a soft cloth or tissue with a small amount of alcohol before wiping the Thermal Print Head.



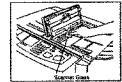
Caution Since the Thermal Print Head is very delicate, avoid shocks or scratching with a hard object.

Cleaning the Scanner Glass

1 Open the ADF unit.
Open the ADF unit while holding the ADF unit release lever.



2 Wipe the Scanner Glass.
Gently wipe the Scanner Glass several times with a soft cloth or tissue.



NOTE For more effective cleaning, dampen a soft cloth or tissue with a small amount of alcohol before wiping the Scanner Glass.

Caution Since the Scanner Glass is very delicate, avoid shocks or scratching with a hard object.

Advice Remark

Gives you helpful advice for trouble-free operation under the following heads:



Important!

Cautions Concerning Installation

Follow the directions below for proper location and environment when installing your RISOGRAPH. They are intended to increase safety and prolong the life of your equipment.

Location and Environment

Your dealer will help determine a proper location for your unit at the time of delivery.

Caution

- Install the unit near the electrical outlet to avoid using an extension cord between the unit and the electrical outlet. If an extension cord is unavoidable, do not use one longer than 15 ft (5 m).
- Do not allow anything to rest on or roll over the power cord, and do not place the unit where the power cord is subject to traffic or abuse. This can result in a shock or fire hazard.
- Maintain adequate distance from the rear wall to allow easy connection/disconnection of the power cord.

Important! [To Avoid Mechanical Problems]

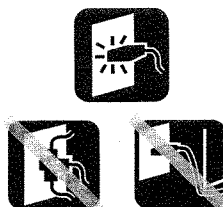
- Avoid dusty locations, such as near blackboards.
- Select a location where the unit will be level (maximum of $\pm 3/8$ inch (± 10 mm) differential allowed).
- Avoid locations where direct sunlight will fall on the unit. If this is unavoidable, protect the unit with a curtain or shade on windows.
- Install within the recommended temperature range: 59°F to 86°F (15°C to 30°C) with moderate humidity (40% to 70%, no condensation).
- Avoid situations of sudden temperature change.
- Avoid locations where heat or air is directed onto the unit from an air conditioner or a heater.



Power Connections

WARNING [To Avoid Personal Injury]

- Securely insert the power cord plug into the electrical outlet to ensure proper electrical connection.
- Do not overload the electrical outlet or extension cord, as it can result in fire or electrical shock (check the "Specifications" section for the allowable range).
- Make sure that the power cord plug is not crushed under other pieces of machinery or stepped on by normal traffic.



Overview of Features

Your RISOGRAPH is a high-quality digital printer that is as easy to use as a copier.

• Easy to Use and Fully Automatic

The control panel shows you the features available and the current status of your RISOGRAPH with indicator lights and easy-to-read digital displays, and includes a convenient "Machine Monitor" for troubleshooting.

Your RISOGRAPH processes your original by first making a master and then printing.

• Print Speed Control

Any of three print speeds can be selected for optimum performance.

• Confidential Feature

An original can be printed and the master can be automatically discarded to prevent further, unauthorized printing.

• Various Original Acceptance

Originals can be clearly reproduced even when they contain both texts and photo/half-tone images.

• Reduction Capabilities

Prints can be reduced into standard ratios, according to your needs. (e.g., legal → letter or B4 → A4)

• Programmable Print Groupings

Simple control panel entries can automate different types of print groupings to save time finishing your print jobs.

• 2-Up/4-Up Printing

Originals can be printed side by side on a single sheet. You can select how they are arranged on a single sheet, 2-by-1 or 2-by-2.

• Color Printing Options

Optional ink colors are available, by simply changing the Print Cylinder (Drum).

• Preventive Maintenance Call

A sign is given in advance when the periodical maintenance service is required, preventing your RISOGRAPH from remaining out of operation unexpectedly.

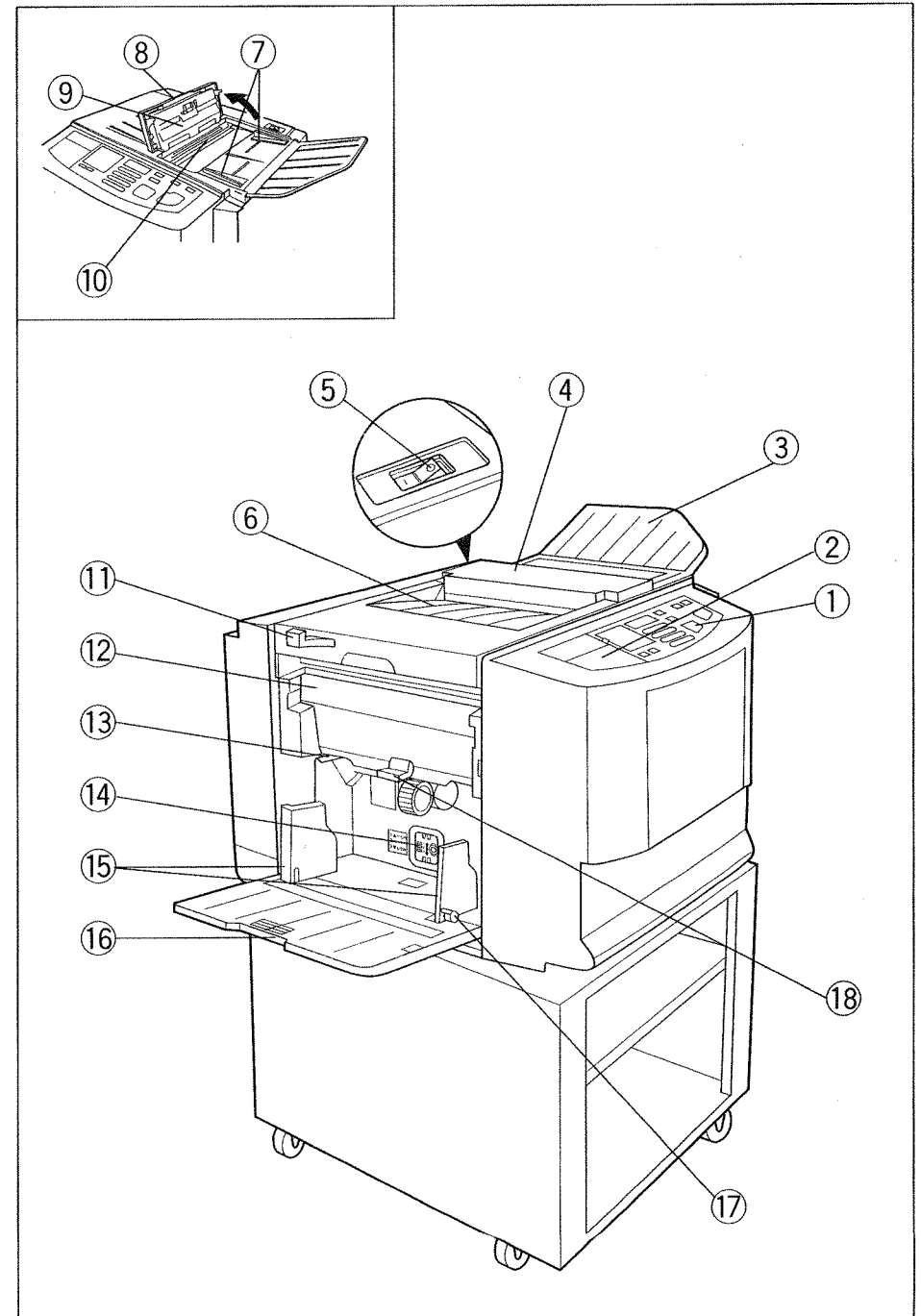
Knowing the Parts and Components

Upper Area

- ① **Main Control Panel (p.8)**
- ② **Sub Control Panel (p.9)**
- ③ **Original Feed Tray (p.14)**
- ④ **ADF Unit**
Feeds originals into the scanner.
- ⑤ **Main Power Switch (p.14)**
- ⑥ **Original Receiving Table**
Holds scanned originals.
- ⑦ **Original Guides (p.15)**
Hold and guide originals for feeding.
- ⑧ **ADF Unit Release Lever (p.36)**
Releases an original for removal when it is jammed in the ADF Unit.
- ⑨ **White Sheet (p.37)**
- ⑩ **Scanner Glass (p.36)**
- ⑪ **Original Stopper**
Prevents originals from dropping from the Original Receiving Table.

Paper Feed Area

- ⑫ **Master Disposal Box (p.30)**
Holds discarded masters.
- ⑬ **Paper Feed Pressure Adjustment Lever (p.12)**
Adjusts the paper feed pressure according to the paper being used.
- ⑭ **Paper Feed Resistance Adjustment Lever (p.12)**
Adjusts the paper feed resistance depending on paper stocks.
- ⑮ **Feed Tray Paper Guides (p.12)**
Hold and guide paper.
- ⑯ **Paper Feed Tray (p.12)**
- ⑰ **Feed Tray Paper Guide Lock Lever (p.12)**
Locks the Feed Tray Paper Guide.
- ⑱ **Master Disposal Box Lock Lever (p.30)**



Master-Making Area

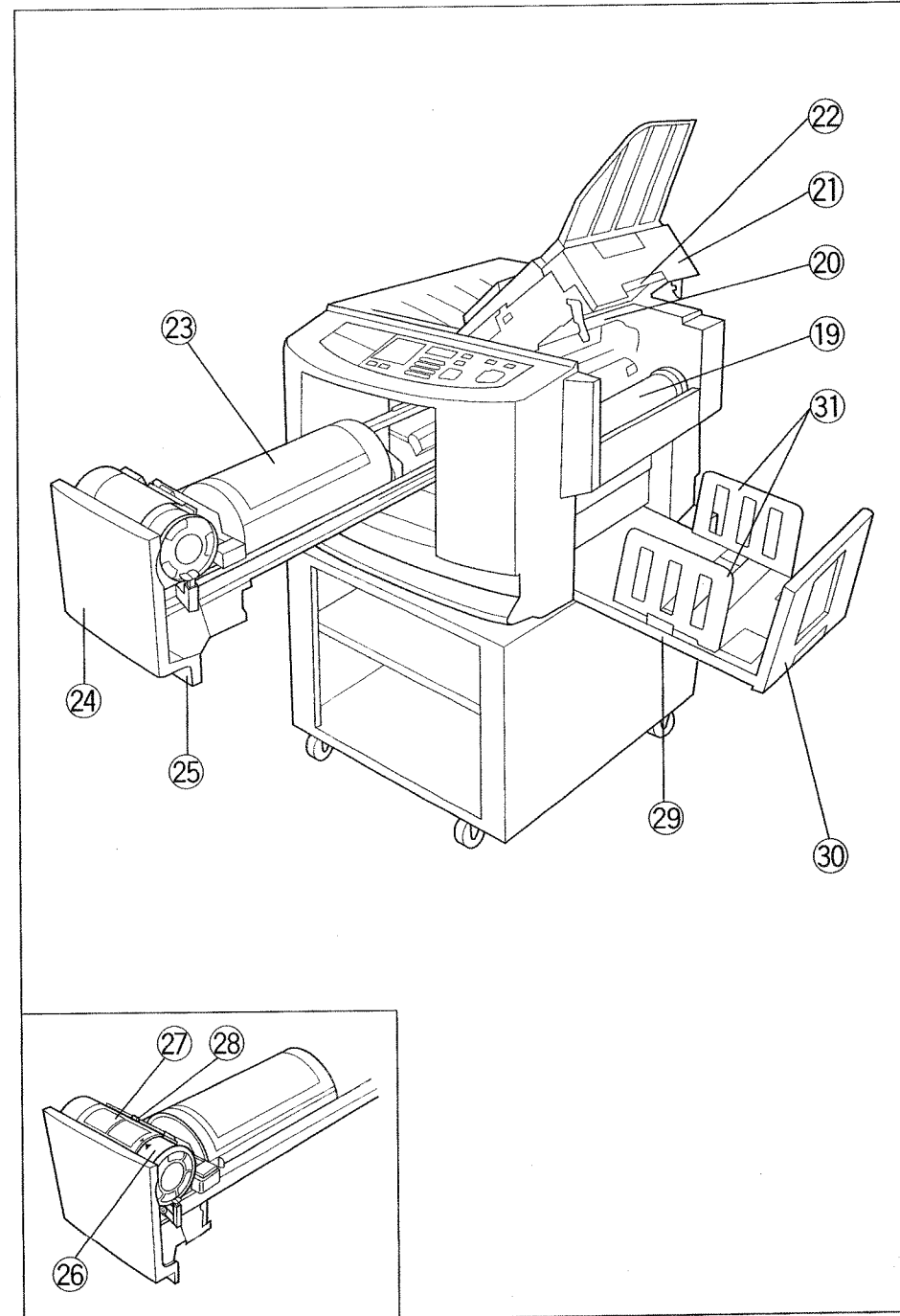
- ⑲ **Master Roll (p.29)**
- ⑳ **Thermal Print Head (p.36)**
- ㉑ **Master Loading Unit (p.29)**
Makes a master from the scanned original.
- ㉒ **Master Loading Unit Release Lever (p.29)**
Opens the Master Loading Unit.

Front Area

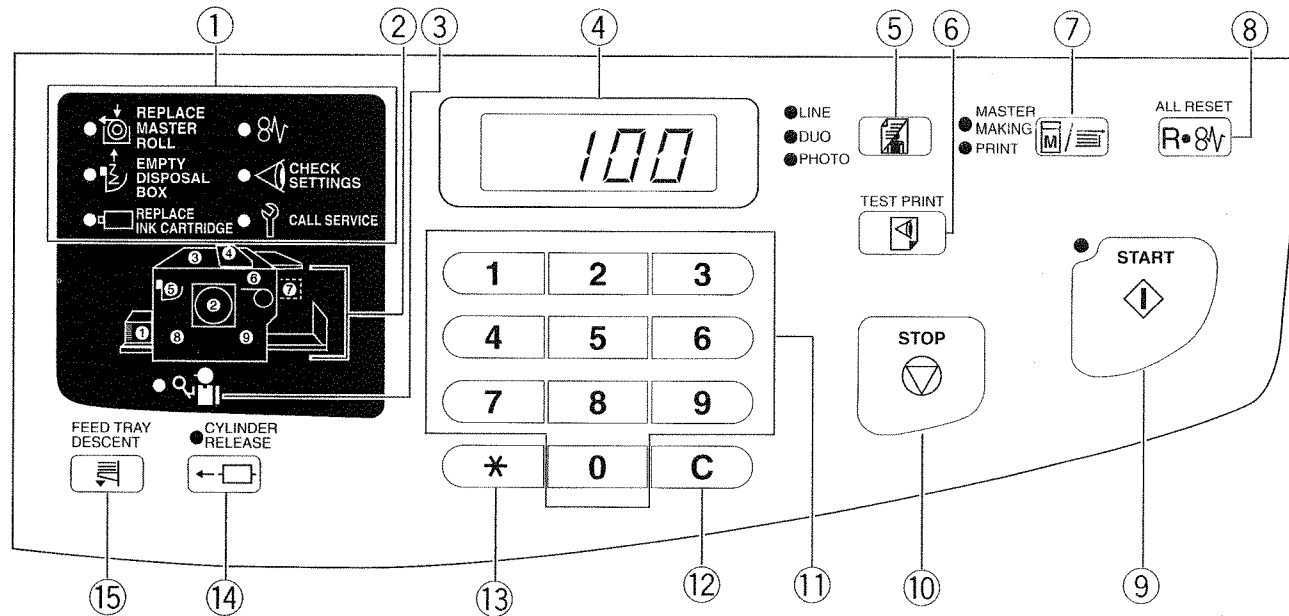
- ㉓ **Print Cylinder (Drum) (p.26)**
Holds the master.
- ㉔ **Front Cylinder (Drum) Cover (p.26)**
- ㉕ **Front Cylinder (Drum) Cover Lever (p.26)**
Used to slide the Print Cylinder (Drum) in and out of the unit.
- ㉖ **Ink Cartridge (p. 28)**
- ㉗ **Ink Cartridge Holder (p.28)**
Secures the Ink Cartridge in position.
- ㉘ **Ink Cartridge Release Lever (p. 28)**
Used to release the Ink Cartridge.

Paper Receiving Area

- ㉙ **Paper Receiving Tray (p.13)**
- ㉚ **Paper Stop (p.13)**
Stops printed paper ejected into the Paper Receiving Tray.
- ㉛ **Receiving Tray Paper Guides (p.13)**
Align printed paper neatly.



The Control Panel



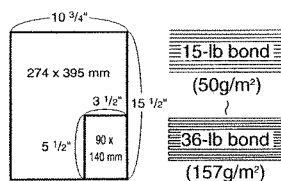
Main Control Panel

- ① **Check & Error Display (p.31)**
Shows errors or machine status.
- ② **Machine Monitor Display (p.31)**
Shows locations which should be checked in relation with the error or machine status indicated in the Check & Error Display.
- ③ **Maintenance Call Indicator (p. 31)**
Flashes when the periodical maintenance service is required.
- ④ **Print Quantity Display**
Counts the number of printed copies or shows other numeric settings and advice codes.
- ⑤ **Image Processing Selection Key (p. 16)**
Switches the current processing mode among Line, Photo and Duo. The indicators light according to the selected mode.
- ⑥ **TEST PRINT Key (p.16)**
Prints a sample from the current master to allow you to check print quality, print position, density, and so on.
- ⑦ **MASTER-MAKING/PRINT Key**
Switches between Master-Making and Printing operations. Normally, selection is automatically made according to the current process.
- ⑧ **ALL RESET [R•8v] Key (p.20)**
Returns all settings to initial status. This key is also used to clear error displays after troubleshooting.
- ⑨ **START Key**
Starts printing or master-making process. The indicator is "GREEN" when the key is active. This key is also used to resume operation after troubleshooting.
- ⑩ **STOP Key**
Interrupts printing, and cancels confidential feature.
- ⑪ **Print Quantity Keys (0 to 9 Keys)**
Use these keys to enter the number of copies to be printed, or to enter other numeric values.
- ⑫ **C Key**
Cancels the number entered and resets the Print Quantity Display to zero.
- ⑬ *** Key (p.23)**
Use when making program settings.
- ⑭ **CYLINDER (DRUM) RELEASE Key (p. 26)**
Positions and unlocks the Print Cylinder (Drum) for removal.
- ⑮ **FEED TRAY DESCENT Key (p. 12)**
Lowers the Paper Feed Tray for replacing or adding printing paper.

Paper Recommendations

Size and Weight Restrictions

Printing paper sizes of 3 1/2" x 5 1/2" (90 x 140 mm, A6 or postcard size) to 10 3/4" x 15 1/2" (274 x 395 mm or B4) can be used. A wide range of paper thicknesses and types can be used for printing. Use printing paper with weights between 15-lb bond (50 g/m²) and 36-lb bond (157 g/m²).



The maximum printing area is as follows:

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- B4 Cylinder (Drum) - 9.8" x 14.0" (251 x 357 mm)

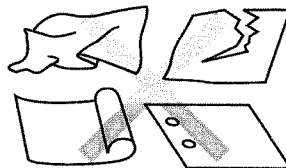
=CR1610=

- Legal Cylinder (Drum) - 8.2" x 13.7" (210 x 349 mm)
- A4 Cylinder (Drum) - 8.2" x 11.4" (210 x 290 mm)

Important!

Do not use the following types of paper, as they can cause jams or misfeeds:

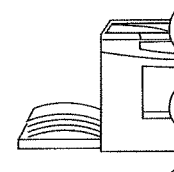
- Extremely thin paper (less than 15-lb bond or 50 g/m²)
- Extremely thick or heavy paper (greater than 36-lb bond or 157 g/m²)
- Wrinkled, curled, folded, or torn paper
- Chemically treated or coated paper (such as thermal or carbon paper)



Guides for Trouble-Free Use

To prevent paper jams and misfeeds, follow the directions below:

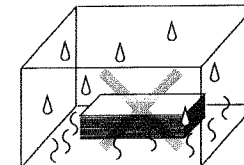
- When using standard paper, set the Paper Feed Pressure Adjustment Lever to "NORMAL." **p.12**
- When using thick paper (such as card stock) or slippery paper, set the Paper Feed Pressure Adjustment Lever to "CARD." **p.12**
- Slide the Feed Tray Paper Guides and Receiving Tray Paper Guides to fit the paper size. **p.12, 13**
- Position the Paper Receiving Tray to fit the paper length.
- Use flat printing paper that is free of folds. If curled paper is unavoidable, place the printing paper so that the curl faces down.
- Paper may stick to the Cylinder (Drum) surface if the top margin is too narrow on the original or if the upper portion of the original uses a large amount of ink. To solve this problem, lower the print position to provide a wider top margin or reverse the top and bottom of the original. Then restart printing from the beginning. **p.19**



Storing Environment

Store printing paper in a level, dry area. Storing the paper in an excessively humid area could cause paper jams as well as poor print quality.

After unpacking printing paper, keep the remaining paper wrapped and store it in a moisture-proof box. It is highly recommended to put silica gel in the paper storage box.



Originals

Size and Weight Restrictions

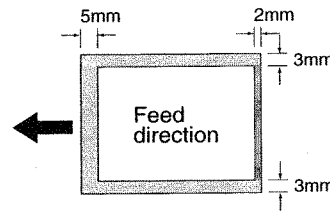
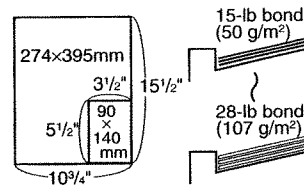
You can use originals from 3 1/2" x 5 1/2" (90 x 140 mm, A6 or postcard size) to 10 3/4" x 15 1/2" (274 x 395 mm or B4). The weight of originals should be between 15-lb bond (50 g/m²) and 28-lb bond (107 g/m²).

The maximum scanning width is as follows:

=CR1630=
10.2" (260 mm)

=CR1610=
8.2" (210 mm)

The margins indicated on the figure to the right are required for the original. Reduce the original if necessary to fit it inside these margins.



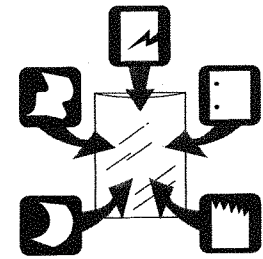
Use the carrier sheet when printing the following originals:

- Patched or worn originals
- Wrinkled, curled, folded, or torn originals
- Transparent originals (such as tracing paper, OHP transparency)
- Originals with correction fluid or glue. If correction fluid or glue is used on an original, thoroughly dry it before you set the original in position.
- Extremely thin originals (less than 15-lb bond or 50 g/m²)
- Originals with a chemically treated surface (such as thermal paper or carbon paper)

Important!

Do not use the following originals:

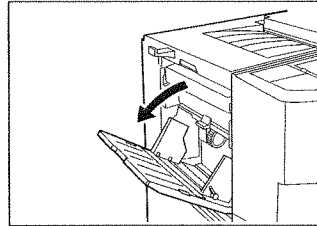
- Original with staples or clips
- Extremely thick originals (greater than 28-lb bond or 107 g/m²)



Preparing to Print

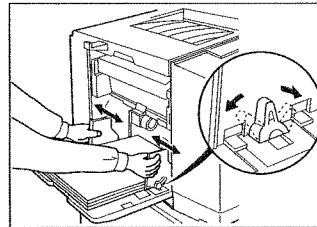
Setting Up the Paper Feed Tray

1 Open the Paper Feed Tray.



2 Adjust the Feed Tray Paper Guides to the width of the paper and load printing paper.

Slide the guides to the desired point on the scale, and push down the Feed Tray Paper Guide Lock Levers in order to lock the guides.



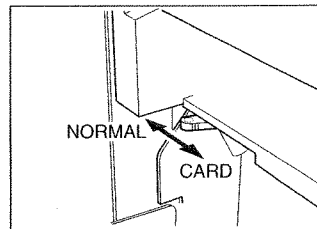
Important!

- Do not mix printing paper of different sizes.
- When using irregular sizes of paper, place the paper in the middle of the tray, then adjust the paper guides.

3 Set the paper feed pressure.

Position the Paper Feed Pressure Adjustment Lever at either "NORMAL" or "CARD," according to the paper to be used:

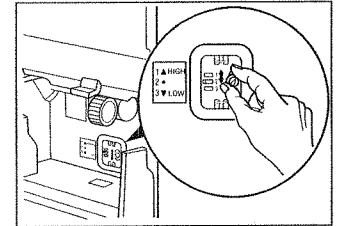
- NORMAL Standard paper
- CARD Thick paper such as card stock



4 Set the paper feed resistance.

Position the Paper Feed Resistance Adjustment Lever at the middle. In the following cases, change the setting as indicated.

- When two or more sheets feed at the same time; → 1 ▲ HIGH
- When the top middle part is peeled or bent on the rear side of paper, especially when using card stock; → 3 ▼ LOW



Adding or Replacing Paper

If you want to add paper or use paper of different size, lower the Paper Feed Tray so that you can load the paper easily.

To lower the Paper Feed Tray, press the FEED TRAY DESCENT key on the control panel.

Important!

Do not mix different paper sizes in the Paper Feed Tray.

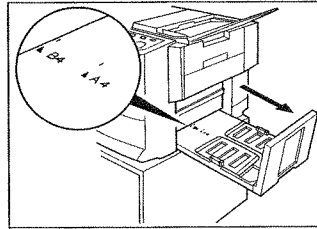
FEED TRAY
DESCENT



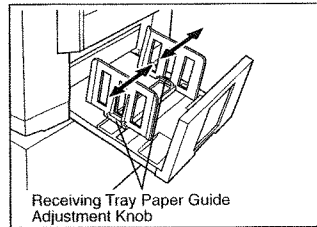
Cautions Concerning Handling and Operation

Setting Up the Paper Receiving Tray

- 1 Pull out the Paper Receiving Tray.**
Pull out the Paper Receiving Tray to fit the paper length.



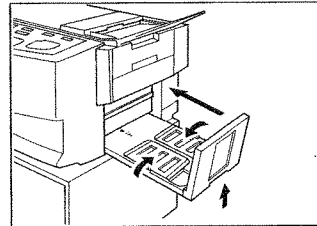
- 2 Raise and slide the Receiving Tray Paper Guides to fit the paper width.**
Holding the Receiving Tray Paper Guide Adjustment Knob, slide the guides.



NOTE For thick paper, set the Guides a little wider than the actual paper width.

Closing the Paper Receiving Tray

- 1 Spread the Receiving Tray Paper Guides to the B4 position, and then turn them down.**



- 2 Lift up the Paper Receiving Tray slightly and push it all the way in.**

To ensure proper product quality and the prolonged life of your RISOGRAPH, follow the directions below concerning handling and operation.

⚠ WARNING [To Avoid Personal Injury]

- Be alert and use common sense.
- Do not open the cover or move the unit during operation.
- Do not handle the parts inside the unit, except what is specified in this *User's Guide*. The parts are made with high precision and can be damaged easily.
- Never stick your hands or fingers in the openings in and around the Paper Feed Tray as well as the Paper Receiving Tray during operation.
- Keep loose clothing or long hair away from moving parts to avoid becoming entangled.
- Do not try to alter the unit or remove parts.
- Disconnect the power cord if you think there is an electrical problem.
- Before cleaning any parts of the unit, turn the power off.
- Select a location where the machine is well ventilated during printing.

⚠ Caution [To Avoid Mechanical Problems]

- Open/close the covers gently.
- Do not turn off or unplug the unit during operation.
- Do not place items on top of the unit or in any opening of the unit during operation. It could cause damage.
- Do not place heavy objects on any part of the unit.
- Do not subject the unit to jolts.
- Contact your local service center before moving the unit.

⚠ Caution - Handling of Ink

- If ink gets into your eyes, flush it out immediately with plenty of water.
- If ink comes into contact with your skin, wash it off thoroughly using soap.
- Allow plenty of ventilation during printing.
- If you feel unwell during use, seek medical advice.
- Only use the ink for printing purposes.
- Keep the ink out of the reach of children.

Important! - Materials Not to Be Printed

Remember not to infringe copyrights or violate laws when using the equipment, even during personal use. Consult your local authorities for further details. In general, use discretion and common sense.

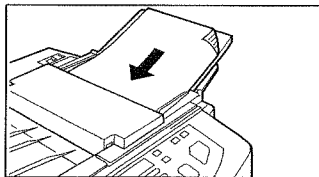
Basic Processes

The basic processes of your RISOGRAPH can be divided into two stages: making a master of an original (Master-Making), and then printing copies from the master. Your RISOGRAPH has been designed so that these two processes flow smoothly from one to the other.

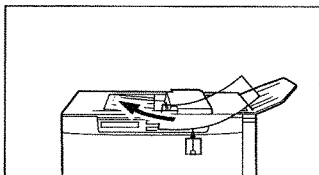
Master-Making

When you create a master, an original is scanned. The master is imaged and then automatically placed on the Print Cylinder (Drum).

1 Set an original in place.

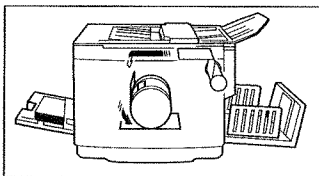


2 Scan the original.



3 Create a master.

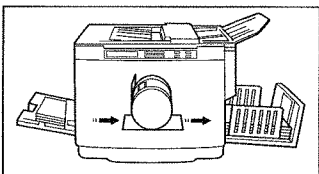
The master is placed on the Print Cylinder (Drum) and a proof copy is produced.



Printing

When you print, the Print Cylinder (Drum) rotates to print the specified number of copies.

4 Enter the number of copies you want.

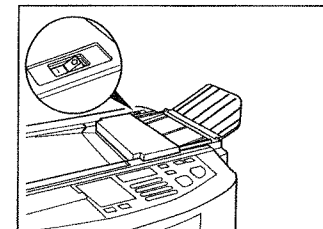
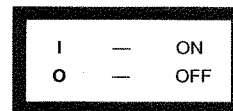


5 Start printing.

Basic Operation

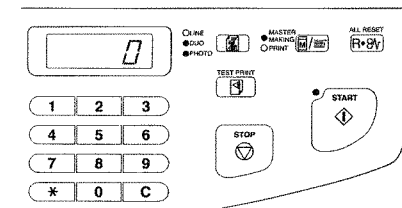
1 Turn the power switch ON.

The power switch is located on the far side on the top of the machine.



2 Check the settings on the control panel.

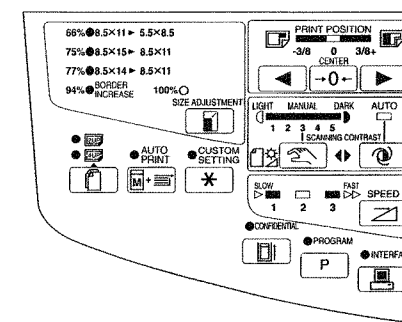
When the power is connected, the control panel indicators show the initial settings. Open the sub control panel cover and make any necessary changes, such as reproduction size and processing mode.



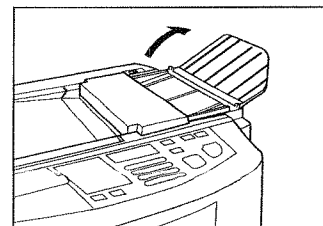
Holding down the **R•8v (ALL RESET)** key longer than one second returns the control panel to the initial settings.

p.20.....Return to initial settings.

p.25.....You can customize the initial settings.



3 Open the Original Feed Tray.

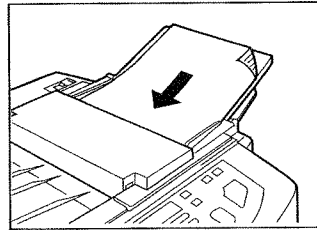


4 Place an original on the Original Feed Tray.

Adjust the Original Guides to the width of the original. Then insert the original face down into the ADF Unit until it stops. The original is automatically fed and set in place.

A maximum of 10 originals can be set in place at one time.

NOTE When an original is in place, processing automatically changes to Master-Making from Printing. The MASTER-MAKING indicator on the control panel lights.



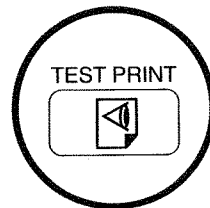
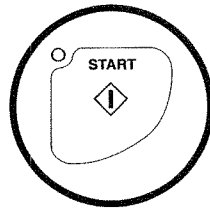
5 Press the START key.

After an original is scanned, a master is created. A sample is automatically printed to allow you to check the print quality, position, and density.

p.19.....To change the position of the printed image, press the PRINT POSITION Adjustment keys, and/or shift the printing paper along with the Feed Tray Paper Guides.

If settings are changed, press the TEST PRINT key to check the results with sample prints.

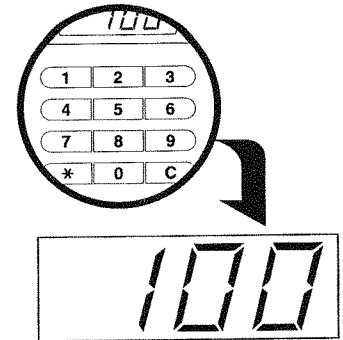
NOTE If the machine is not used for a long period of time, ink on the surface of the Print Cylinder (Drum) may dry. Dry ink on the Print Cylinder (Drum) may cause faint or blurred printing. In this case, press the TEST PRINT key several times until a clear printed image is obtained.



6 Enter the number of copies to be printed.

Specify the number of copies to be printed using the Print Quantity keys; the number is displayed in the Print Quantity Display.

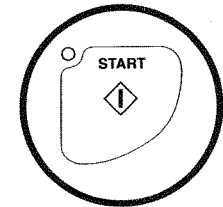
NOTE If you enter a number incorrectly, press the C key to reset the Print Quantity Display to zero, then enter the correct number.



7 Press the START key.

The specified number of copies is printed.

NOTE If printing stops and the CHECK SETTINGS indicator flashes on the Check & Error Display with ① flashing to indicate its location, paper has run out. Load paper into the tray.
p.12



Special Note - Auto Idling Operation

In case ink is not supplied quickly enough to cover ink consumption during printing, paper stops feeding and the operation speed is slowed down to secure sufficient ink supply by free Print Cylinder (drum) rotation.

During this operation, a rotation signal is indicated in the Print Quantity Display as shown to the right. When a sufficient volume of ink is obtained for printing, the unit resumes printing operation. In case it stops and the remaining quantity to be printed appears in the Print Quantity Display, press the START key to finish your print job.



F-1 Photo/Half-Tone Processing

If an original contains photographs or half-tone images, or a multi-colored original is used, select PHOTO or DUO processing by pressing the Image Processing Selection key. The corresponding indicator lights.

Since the image is processed graphically, degrees of shading are accurately reproduced.

PHOTO

Reproduces different shades of photograph or half-tone images most clearly. Lines and texts become less sharp if they are included in an original.

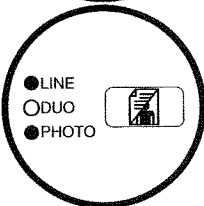
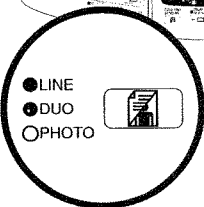
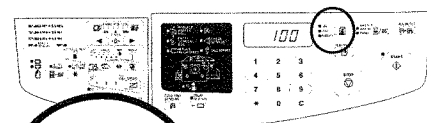
DUO

Reproduces photograph or half-tone images clearly without deteriorating the sharpness of lines and texts. This processing mode is recommended for multi-colored originals or photo originals with sharp lines and text included.

p.18.....The scanning contrast setting should be checked and adjusted according to image density, if necessary.

- NOTE**
- If DUO is selected for light-density originals, lines might be broken. In this case, select LINE.
 - If LINE is selected to print an original that contains a darkly shaded photograph, on the other hand, copies might be smudged. In this case, select PHOTO or DUO.

Holding down the R• \varnothing (ALL RESET) key longer than one second returns the image processing to the initial setting (LINE).

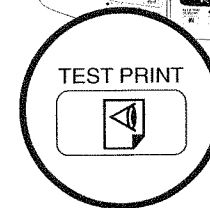
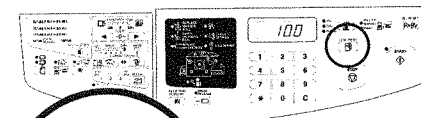


F-2 Producing Proof Copies

If changes have been made to the print position and other settings, check the print quality by producing proof copies.

By holding down the TEST PRINT key, you can print continuously.

NOTE Test printing does not affect the quantity in the Print Quantity Display.



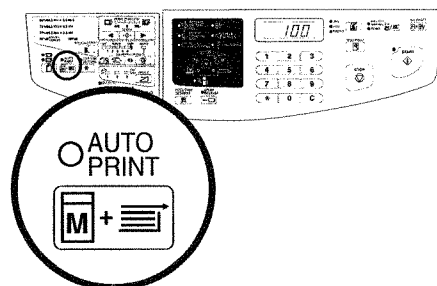
F-3 Automatic Printing

If you do not need to check the print samples before making prints, press the AUTO PRINT key before pressing the START key to activate the Auto Print feature. This feature enables non-stop operation from master-making through printing.

NOTE If you need to check or adjust the print position, cancel the Auto Print feature by pressing the AUTO PRINT key again.

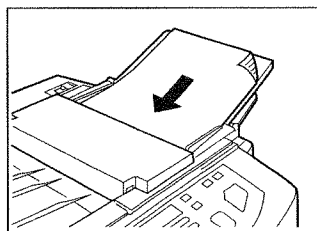
1 Press the AUTO PRINT key.

The Auto Print indicator lights.



2 Set an original in place.

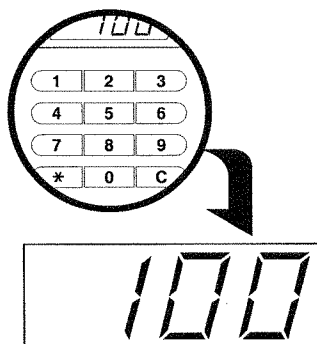
Insert an original face-down into the ADF Unit until it stops. A maximum of 10 originals can be set at one time.



3 Enter the number of copies to be printed.

NOTE If you enter a number incorrectly, press the C key to reset the Print Quantity Display to "0," then enter the correct number.

If "0" is selected as the print quantity, the machine will not start.

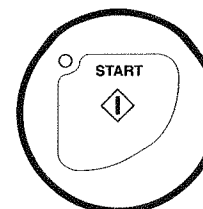


4 Press the START key.

The specified number of copies are produced with an extra proof copy.

Holding down the R•R (ALL RESET) key longer than one second returns the Auto Print feature to the initial setting.

▶ p.25.....You can customize initial settings.



F-4 Reducing Originals

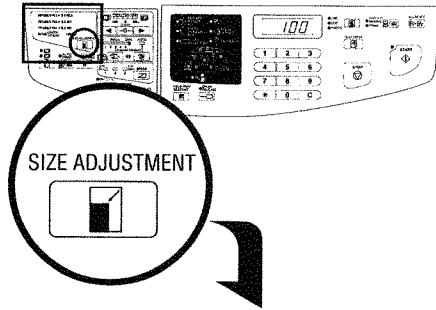
Originals can be reduced to a preset percentage. Four preset reductions are available. If selected, the chosen Reproduction Size indicator in the Sub Control Panel lights up.

Press the SIZE ADJUSTMENT key to select a desired percentage.

Each time the SIZE ADJUSTMENT key is pressed, the indicators light in the following order:

- <USA model>
94% → 77% → 75% → 66% → 100% → 94%
- <Metric model>
94% → 87% → 82% → 71% → 100% → 94%

Holding down the R•Ø (ALL RESET) key longer than one second returns print size to the initial setting (100%).



=CR1630=

71%	●B4 ▶ B5	A4 ▶ A5
82%	●B4 ▶ A4	B5 ▶ A5
87%	●A4 ▶ B5	
94%	●BORDER INCREASE	100% ○

=CR1610/Metric Model=

71%	●A4 ▶ A5
82%	●B5 ▶ A5
87%	●A4 ▶ B5
94%	●BORDER INCREASE 100% ○

66%	●8.5×11 ▶ 5.5×8.5
75%	●8.5×15 ▶ 8.5×11
77%	●8.5×14 ▶ 8.5×11
94%	●BORDER INCREASE 100% ○

=CR1610/U.S.A. Model=

F-5 Changing Image Contrast on Prints

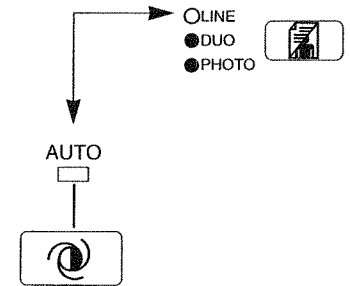
To achieve different tones on printed copies from those of an original, adjust the scanning contrast manually by canceling the Auto Scanning Contrast Adjustment mode.

NOTE The Auto Scanning Contrast Adjustment mode is available only for the Line processing mode.

When the Auto Scanning Contrast Adjustment mode is selected, the Auto adjustment indicator is lit.

In this case, the scanning contrast will be adjusted automatically according to the darkness of the original scanned.

NOTE This mode can be selected by pressing the AUTO SCANNING CONTRAST Adjustment key.



Press the MANUAL SCANNING CONTRAST Adjustment key to change contrast.

Each press of this key changes the contrast by one degree in the following order:
4 → 5 → 1 → 2 → 3 → 4

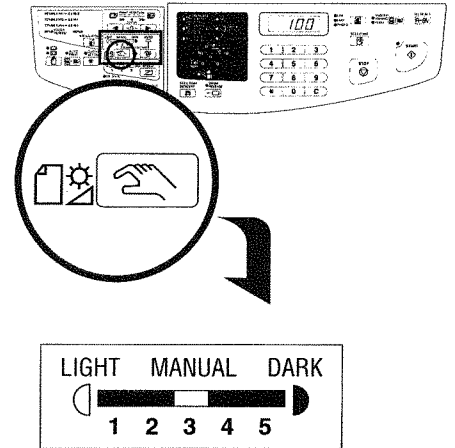
Ⓛ (1 or 2) For newspaper or colored originals.

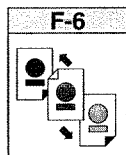
Ⓜ (4 or 5) For poor copies or pencil-written originals.

NOTE After adjusting the scanning contrast, make another master to make the adjustment effective for further printed copies.

Holding down the R•Ø (ALL RESET) key longer than one second returns the Scanning Contrast to the initial setting (AUTO).

☞ p.25.....You can customize initial settings.





Repositioning the Print

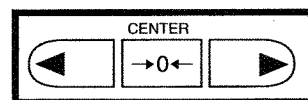
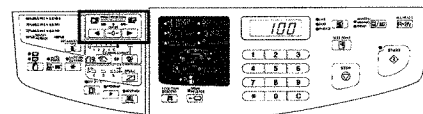
The print position can be adjusted vertically (up and down) and horizontally (to the right and left).

NOTE If you adjust the print position, be sure to produce test prints to verify the new print position.

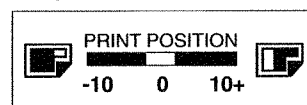
Adjusting Vertical Print Position

You can move the print position vertically by pressing either of the PRINT POSITION Adjustment keys. The allowable range is $\pm 3/8$ " (± 10 mm).

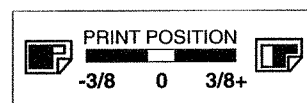
When the key is pressed, the adjusted vertical print position is roughly given by the PRINT POSITION indicator.




=Metric Model=




=U.S.A. Model=



 Moves print position down.

 Moves print position up.

 Returns print position to the center.

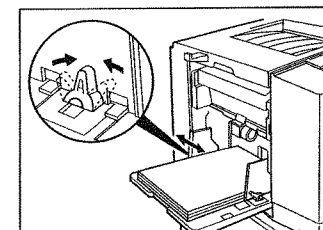
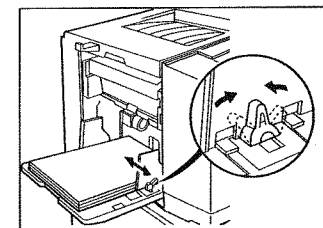
Adjusting Horizontal Print Position

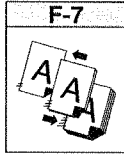
You can move the print position horizontally by shifting the printing paper to the right or the left along with the Feed Tray Paper Guides. To move the Feed Tray Paper Guides, first release the lock by pulling up the Feed Tray Paper Guide Locking Levers.

NOTE The allowable range is $\pm 3/4$ " (± 20 mm) except B4 size ($10 3/4$ " x $15 1/2$ " paper). For this paper size, it is limited to $\pm 3/8$ " (± 10 mm).

Important!

When adjusting horizontal print position, make sure to slide the Receiving Tray Paper Guides following the adjusted positions of the Feed Tray Paper Guides. Otherwise, printed copies may jam in the Paper Receiving Tray.





Changing Print Speed

Print speed can be set at any of three levels, among 60, 90 and 130 sheets per minute.

Press the PRINT SPEED Adjustment key to change the print speed.

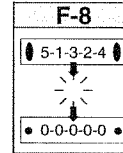
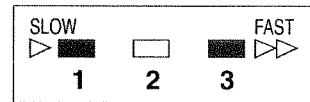
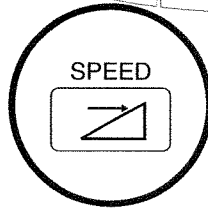
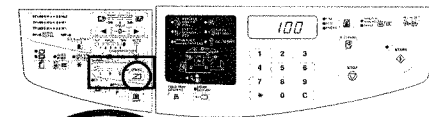
The setting is changed in the following order:

3 (130 cpm) → 1 (60 cpm) → 2 (90 cpm) → 3

NOTE The normal print speed (setting 2) is 90 sheets per minute.

Holding down the R•8v (ALL RESET) key longer than one second returns print speed to the initial setting.

☞ p.25....You can customize initial settings.

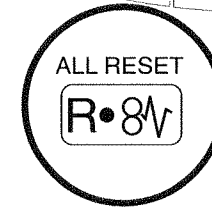
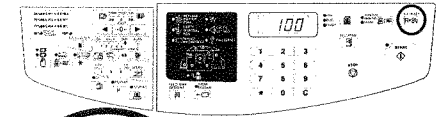


Return to Initial Settings

To return all the settings to initial status, including print position and reproduction percentage, turn the power off and on again, or hold down the R•8v (ALL RESET) key for more than one second.

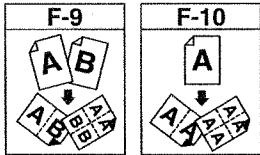
NOTE If you have customized the initial settings, they will be the ones recovered when you perform the procedure above.

☞ p.25



INITIAL SETTINGS (at time of purchase)

- Image Processing Mode Select → LINE DUO PHOTO
- Size Adjustment → 94% BORDER INCREASE 100% SIZE ADJUSTMENT
- Print Quantity Display →
- Print Speed → SLOW 1 2 3 FAST SPEED
- Print Position → PRINT POSITION -3/8 0 3/8+
- Master-Making/Print → MASTER MAKING PRINT
- Original Scanning Contrast → LIGHT 1 2 3 4 5 DARK AUTO

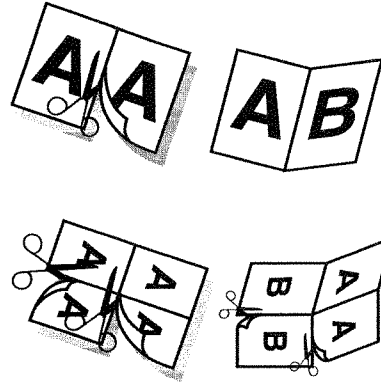


Printing Originals Side by Side

The same or different originals can be printed side by side and, if required, each original can have different settings: reproduction size, scanning contrast, and processing (Line/Photo/Duo).

You can select how they are arranged side by side on a single sheet, 2-by-1 (2-Up) or 2-by-2 (4-Up).

Productivity can be doubled (quadrupled) by cutting the 2-Up (4-Up) prints into 2 pieces (4 pieces) or by folding them in half, to finish your print job.



☞ p.17.....The Auto Print feature can be used with the 2-Up/4-Up printing.

<Reference Chart for 2-UP/4-UP Printing Operation>

The 2-Up or 4-Up printing can be realized on only one regular size printing paper for the respective models. Refer to the charts below for the available printing paper and original sizes and their size adjustment requirement.

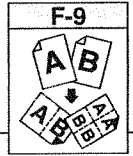
=CR1630=		Original Size			
		2-Up		4-Up	
		B5	B5	A5	B6
Printing Paper Size	B4	100%	71%	87%	100%

=CR1610= <Metric Model>		Original Size				
		2-Up		4-Up		
		B5	A5	A5	B6	A6
Printing Paper Size	A4	82%	100%	71%	82%	100%

=CR1610= <U.S.A. Model>		Original Size	
		2-Up	4-Up
		Statement	Statement
Printing Paper Size	Legal	100%	77%

Holding down the R- Ⓡ (ALL RESET) key longer than one second cancels this feature.

Printing Two Different Originals 2-UP/4-UP

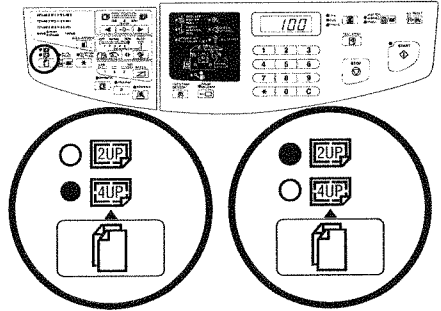


Using the Same Settings

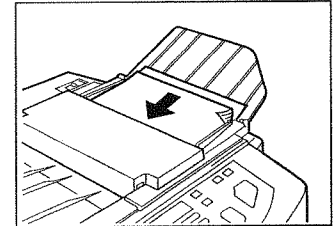
- 1 Press the 2-UP/4-UP key to select a desired setting for this feature.

The corresponding indicator lights when the 2-Up or 4-Up setting is selected.

NOTE To cancel this feature, press the key again to turn off the indicators.

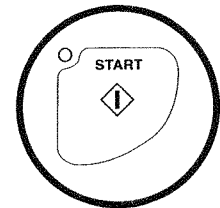


- 2 Place two originals face-down on the Original Feed Tray.



- 3 Press the START key.

The originals are scanned and the sample 2-Up or 4-Up print comes out.



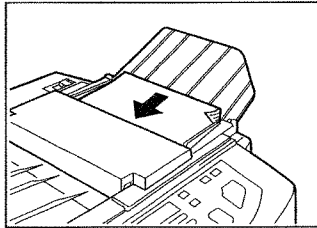
Changing Settings for One Original

When different settings are required for two different originals, place them individually.

The RISOGRAPH scans the first original, and then provides a 15-second period (a beep sounds) within which to place the second original.

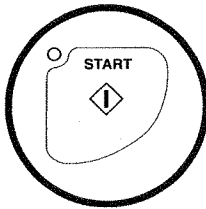
NOTE If you press the STOP key or do not place the second original during the 15-second period, the sample print will be produced with one side blank.

- 1 Select the 2-Up or 4-Up setting for this feature and place the first original face-down on the Original Feed Tray.**



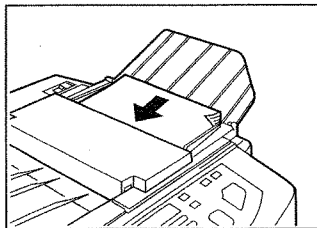
- 2 Press the START key.**

After the first original is scanned and ejected into the Original Receiving Table, a 15-second beep sounds.

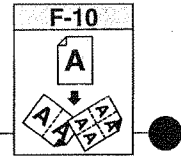


- 3 During the 15-second beep, enter the settings for the second original and place the second original on the Original Feed Tray.**

After the second original is scanned, the sample 2-Up or 4-Up print is automatically produced.



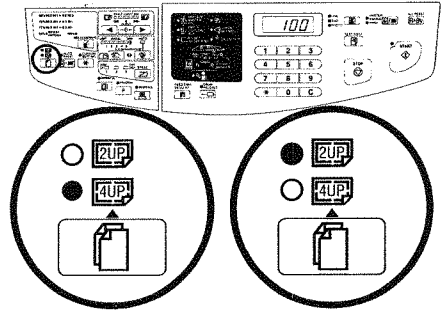
Printing the Same Original 2-Up/4-Up



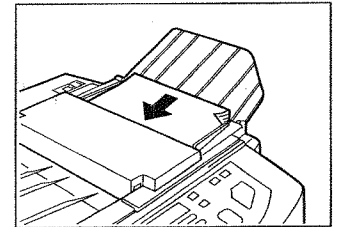
- 1 Press the 2-UP/4-UP key to select a desired setting for this feature.**

The corresponding indicator lights when the 2-Up or 4-Up setting is selected.

NOTE To cancel this feature, press the key again to turn off the indicators.

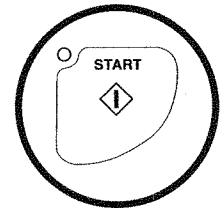


- 2 Place an original face-down on the Original Feed Tray.**



- 3 Press the START key.**

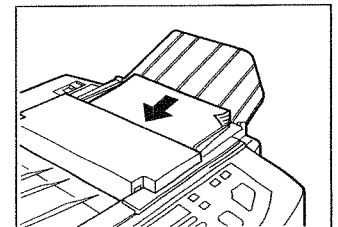
After the original is scanned and ejected into the Original Receiving Table, a 15-second beep sounds.

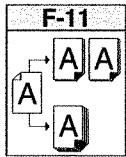


- 4 During the 15-second beep, change settings, if necessary, and place the original on the Original Feed Tray again.**

After the original is scanned again, the sample 2-Up or 4-Up print is automatically printed.

NOTE If you press the STOP key or do not place the original during the 15-second period, the sample print will be produced with one side blank.





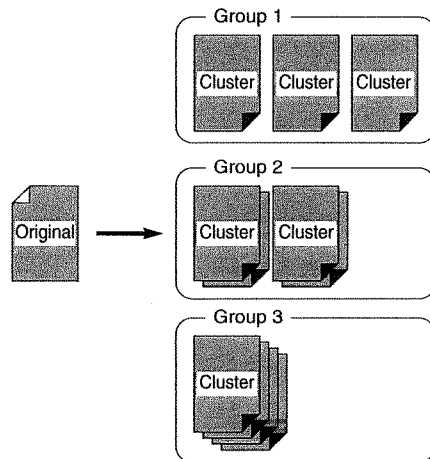
Automatic Sorting into Groups

The Programmed Printing feature can be used to print and sort printed sheets into various groups automatically from one original.

Up to 5 groups can be set up, with a maximum of 99 clusters in each group and a maximum of 9,999 copies can be specified in each cluster.

NOTE To cancel the Programmed printing feature, press the PROGRAM key again.

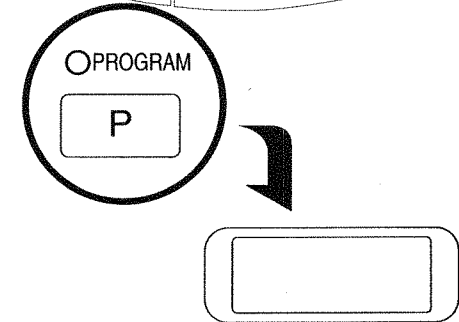
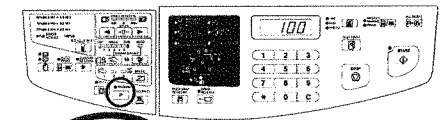
NOTE The Job Separator (optional) is useful for Programmed printing.



If more than one original (up to 10 sheets) is placed in the ADF Unit with the Auto Print feature activated, the set-up program runs completely for each original, until all the originals are printed and sorted into groups as specified in the program.

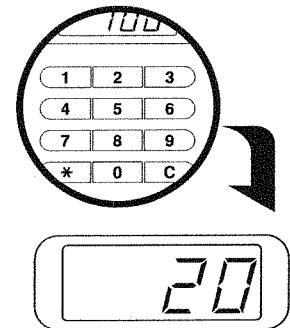
1 Press the PROGRAM key.

The Program indicator lights and the numeric indication goes out in the Print Quantity Display.



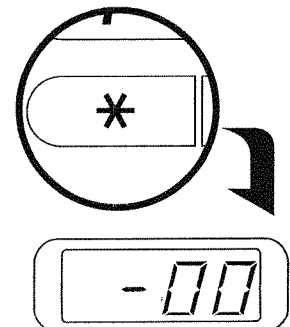
2 Input the number of copies to be printed for each cluster of the first group using the Print Quantity keys.

NOTE If you enter a number incorrectly, press the "C" key to reset the Print Quantity Display to zero, then enter the correct number.



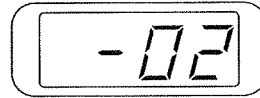
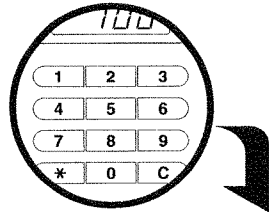
3 Press the "*" key.

The Print Quantity Display is changed to [-00] to allow you to specify the number of clusters for the first group.



4 Input the number of clusters for the first group using the Print Quantity keys.

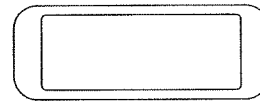
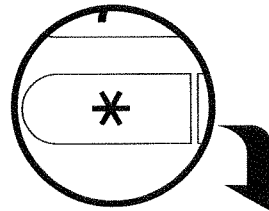
NOTE Unless you specify the number of clusters at this stage, it is automatically set at "1."



5 Press the "*" key again to set the print quantity for the second group.

Repeat the procedures in the steps 2 to 5 and input print quantities and cluster numbers for any remaining groups. Up to 5 groups can be specified.

NOTE If you want to correct the program setting, press the PROGRAM key and cancel the existing program setting. Then enter the correct one from the beginning.

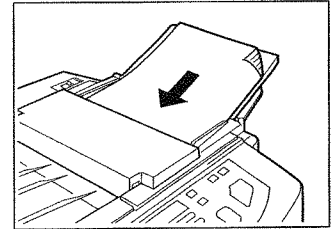


6 Enter other settings.

Specify printing position, reproduction size, and so on.

NOTE If you want to print more than one original using the same program settings, press the AUTO PRINT key to activate the Auto Print feature.

7 Place an original face-down on the Original Feed Tray.



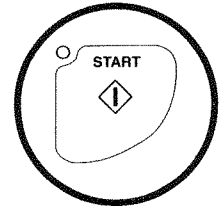
8 Press the START key.

A sample print is produced. If the Auto Print feature is not activated, press the START key again.

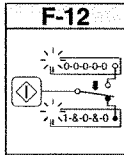
Copies are produced and sorted according to the program, starting with the last group specified. When printing is completed, the program settings are automatically cleared.

To interrupt the programmed printing, press the STOP key.

NOTE If the Auto Print feature is activated, the programme settings are recovered at the end of printing.



Holding down the R•8v (ALL RESET) key longer than one second clears the program.



Customizing the Initial Settings

You can change some of the initial settings to which the machine status will be returned when the power is turned on, or the R•8v (ALL RESET) key is held down for more than one second.

NOTE When you customize the initial settings, they remain valid until they are changed again.

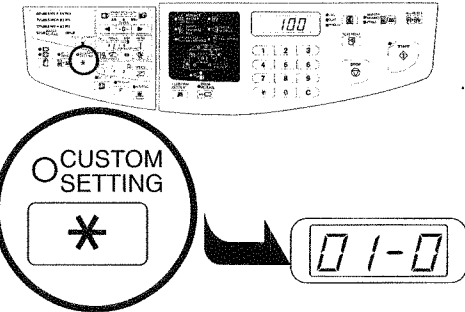
INITIAL SETTINGS OPEN TO ARBITRARY CHANGES

Item No.	Title	Description	Choices	Ref. Page
01	PRINT SPEED	Selects the initial print speed (copies per minute).	0(=90), 1(=130), 2(=60)	p.20
02	AUTO PRINT FEATURE	Selects the initial status of the Auto print feature.	0(OFF), 1(ON)	p.17
03	JOB SEPARATOR CONNECTION	Opens/Closes the data line for the optional Job Separator. Select "YES" when attaching the Job Separator.	0(NO [Close data line]), 1(YES [Open data line])	p.37
04	AUTO RESET TIME	Gives/Ignores the period for automatic initialization.	0(NONE), 1(3 Minutes)	
06	MINIMUM PRINT QUANTITY	Selects the minimum print quantity which should be produced from one master.	0(1), 1(10), 2(20), 3(30), 4(40), 5(50) [Copies]	
07	AUTO DOCUMENT FEED	Requires or does not require the START key, to feed the following original placed in the ADF unit without the Auto print feature activated.	0(OFF [START key required]), 1(ON [START key not required])	
09	ORIGINAL SCANNING CONTRAST	Selects the initial setting of the Original scanning contrast.	0(3), 1(4), 2(5), 3(1), 4(2), 5(AUTO) [Setting]	p.18

* The framed item is the default setting.

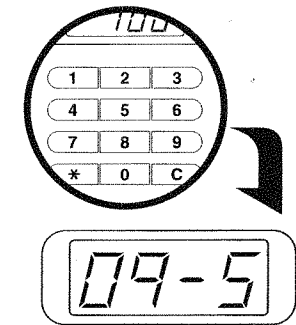
1 Press the CUSTOM SETTING key in the Sub Control Panel.

Access the changeable initial settings. Item number and a setting-status number appear on the Print Quantity Display.



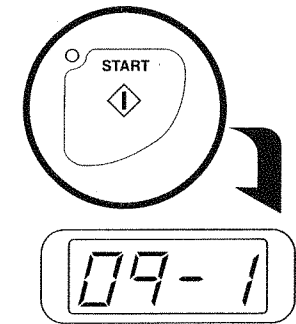
2 Enter the item number that you want to customize.

Use the Print Quantity keys. For example, to select item , enter and .



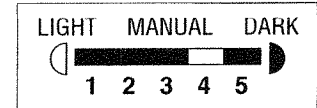
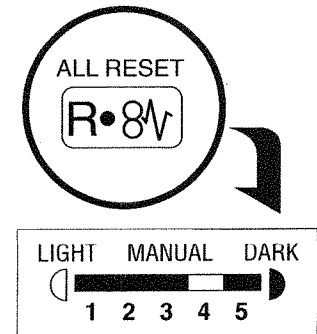
3 Press the START key.

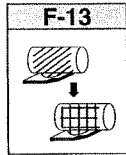
Each time you press the START key, the setting is changed. Select a desired setting.



4 Press the R•8v (ALL RESET) key.

After customizing the settings, hold down the R•8v (ALL RESET) key for more than one second. The custom settings appear as the initial settings when the power is turned ON or the R•8v (ALL RESET) key is held down for more than one second.





Changing Print Color

To print with an optional color Print Cylinder (Drum), simply remove the existing Print Cylinder (Drum) from the RISOGRAF and replace with the color of choice.

Caution Only use RISOGRAF CR Print Cylinder (Drum).

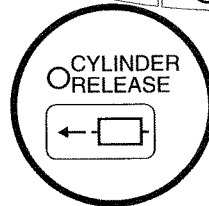
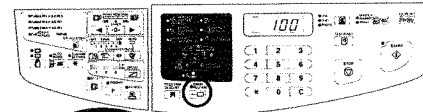
- NOTE**
- Change the Print Cylinder (Drum) with the power ON.
 - Store the removed Print Cylinder (Drum) horizontally in the Print Cylinder (Drum) case.
 - Never store the Print Cylinder (Drum) in an upright position.

Changing Print Cylinders (Drums)

1 Check that the CYLINDER (DRUM) RELEASE indicator is lit on the Control Panel.

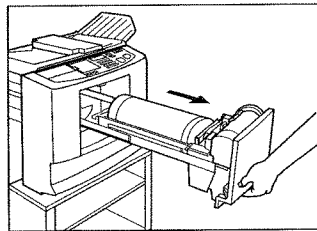
If the indicator is not lit, press the CYLINDER (DRUM) RELEASE key to turn it on.

Caution
Do not pull out the Print Cylinder (Drum) unless this indicator is lit.



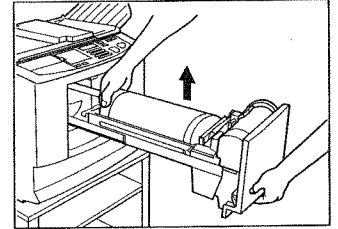
2 Pull out the Print Cylinder (Drum).

Hold the Front Cylinder (Drum) Cover Lever and pull out the Print Cylinder (Drum) until it stops.



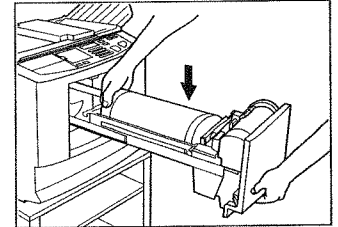
3 Remove the Print Cylinder (Drum) from the unit.

Lift the Print Cylinder (Drum) with both hands to remove it.



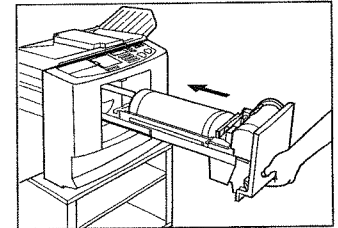
4 Load another color Print Cylinder (Drum) onto the holder.

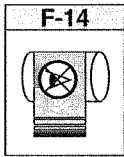
Insert another Print Cylinder (Drum) into the holder horizontally, holding the Front Cylinder (Drum) Cover and Print Cylinder (Drum) body with both hands.



5 Slide the Print Cylinder (Drum) into the unit.

Slide the Print Cylinder (Drum) into the unit until it stops, and the CYLINDER (DRUM) RELEASE indicator lights up on the Control Panel.





Protecting Confidential Documents

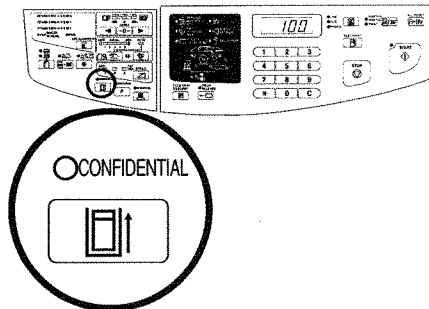
After printing is complete, the master remains on the Print Cylinder (Drum). Copies of this master can be printed at any time by pressing the START key. To protect confidential documents from unauthorized duplication, press the CONFIDENTIAL key to discard the master after printing.

1 Confirm that printing has ended.

2 Press the CONFIDENTIAL key.

The CONFIDENTIAL indicator lights.

NOTE To cancel the Confidential feature, press the STOP key or the CONFIDENTIAL key again.

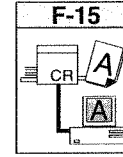
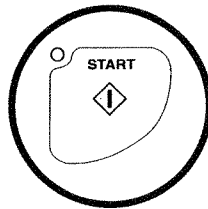


3 Press the START key.

The current master is discarded and replaced with a blank one. The CONFIDENTIAL indicator goes out, and the Confidential feature is canceled.

NOTE The master is discarded into the Master Disposal Box.

p.30.....For strictly confidential documents, discard the contents of the Master Disposal Box.



Interfacing with a Computer

Your RISOGRAPH can be interfaced with Computers (such as IBM and compatibles, and Macintosh) via the dedicated computer interface (optional).

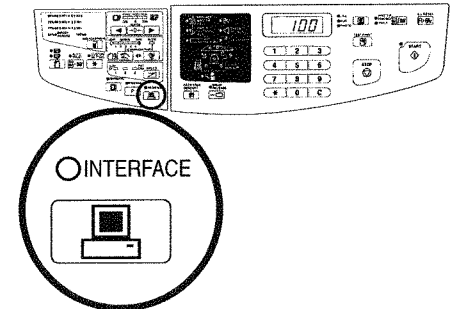
When the RISOGRAPH is interfaced with a Computer, the I/F key opens the interface line to the Computer.

For more details on how to interface with Computers, consult the manual for the RISOGRAPH Computer Interface system.

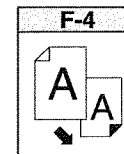
Open the sub-panel cover and press the I/F key.

The I/F indicator lights when the interface line to a Computer is open.

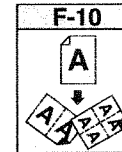
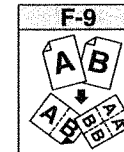
NOTE The following features become inactive when the I/F key is selected:



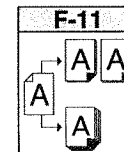
- SIZE ADJUSTMENT FEATURE -



- 2-UP/4-UP PRINTING FEATURE -



- PROGRAMMED PRINTING FEATURE -



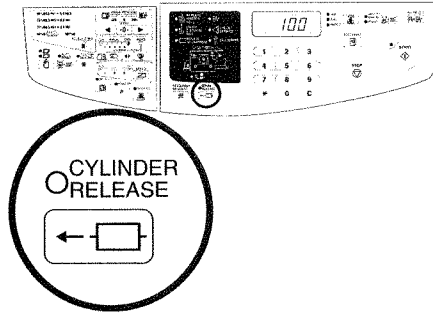
Replacing the Ink Cartridge

1 Check that the CYLINDER (DRUM) RELEASE indicator is lit on the Control Panel.

If the indicator is not lit, press the CYLINDER (DRUM) RELEASE key to turn it on.

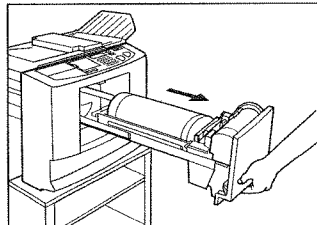
⚠ Caution

Do not pull out the Print Cylinder (Drum) unless this indicator is lit.



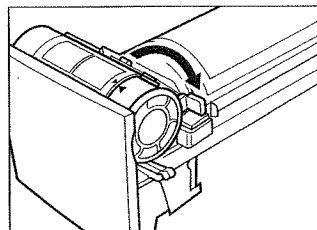
2 Pull out the Print Cylinder (Drum).

Hold the Front Cylinder (Drum) Cover Lever and pull out the Print Cylinder (Drum).



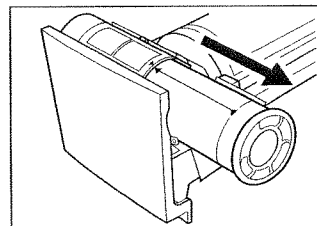
3 Release the lock on the Ink Cartridge.

Turn over the Ink Cartridge Release Lever in the direction illustrated.

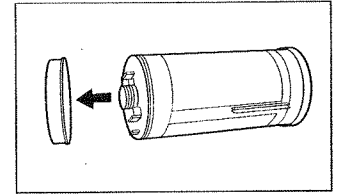


4 Remove the empty Ink Cartridge.

Pull out the empty Ink Cartridge from the Ink Cartridge Holder.

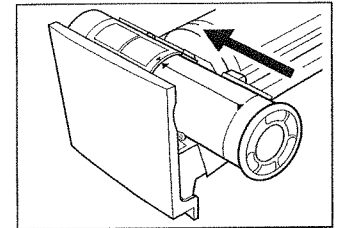


5 Remove the cap from a new Ink Cartridge.



6 Insert the new Ink Cartridge into the Ink Cartridge Holder.

Rotate the Ink Cartridge until its arrow meets the counterpart marked on the Ink Cartridge Holder, and push it until it stops.

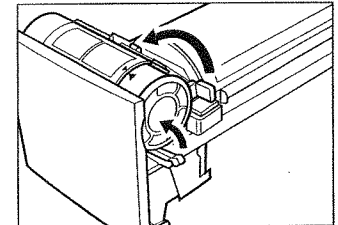


7 Lock the Ink Cartridge into place.

Turn back the Ink Cartridge Release Lever to the original lock position.

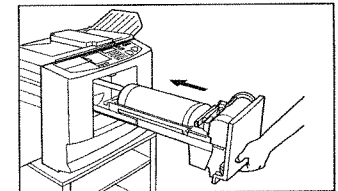
⚠ Caution

If this lever is not returned to its original lock position, it may be damaged when sliding the Print Cylinder (Drum) back inside.



8 Slide the Print Cylinder (Drum) back into the Unit.

Slide the Print Cylinder (Drum) into the unit until it stops, and the CYLINDER (DRUM) RELEASE indicator lights up on the Control Panel.

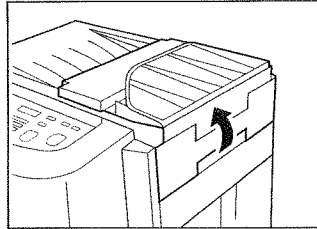


Important!

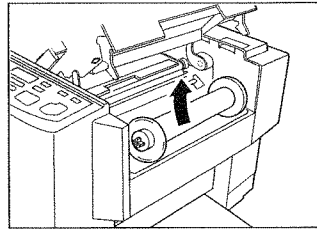
- Always use the Ink cartridge whose name's suffix is the same alphabetic character as of the initial suffix of your machine name, for "Black"
- Never insert a cartridge of a different color ink. Always be sure that the color of the new Ink Cartridge is the same as that of the old one. If you want to change the print color, replace the entire Print Cylinder (Drum).
P. 26
- There is ink on the master wrapped around the Print Cylinder (Drum). Keep your hands and clothes away from it. If your hands come into contact with ink, wash it off thoroughly.

Replacing the Master Roll

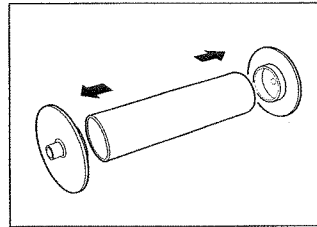
- 1 Open the Master Loading Unit.**
Hold the Master Loading Unit Release Lever and raise the Master Loading Unit until it stops.



- 2 Remove the depleted Master Roll.**
Pull out the depleted Master Roll from the holder.

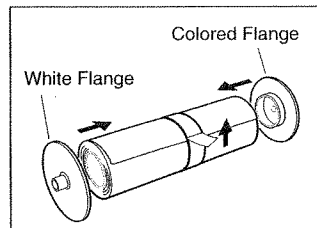


- 3 Remove both left and right flanges.**
Remove both left and right flanges from the depleted Master Roll.

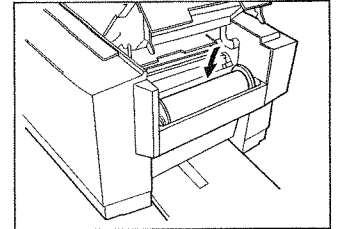


- 4 Attach the existing flanges to a new Master Roll.**
Unpack a new Master Roll.

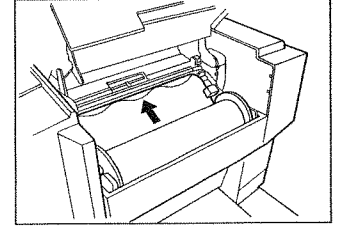
Attach the flanges removed from the depleted Master Roll to the new one, with the colored flange to the right end and the white one to the left end. Then unwrap the new Master Roll.



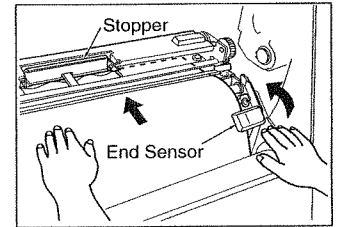
- 5 Install the new Master Roll.**
Push the Master Roll into the holder with the colored flange on the right side.



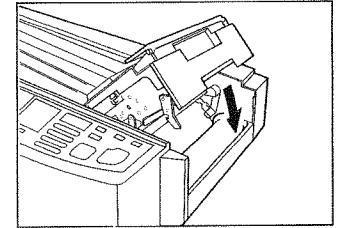
- 6 Insert the leading edge of the Master Roll into the Master Entrance.**
Unroll the Master Roll by pulling on the leading edge and insert the leading edge into the Master Entrance.



- 7 Set the Master in place.**
Pass the Master under the Master End Sensor on the right side and feed it until the leading edge reaches the Master Stopper. Then remove the slack from the master by winding up the Master Roll holding the master.

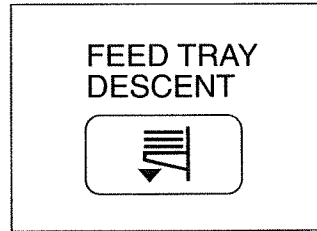


- 8 Close the Master Loading Unit.**
Close the Master Loading Unit gently.

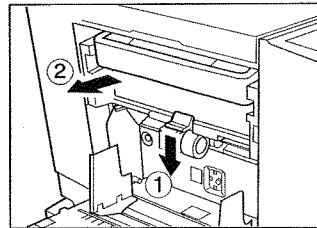


Emptying the Master Disposal Box

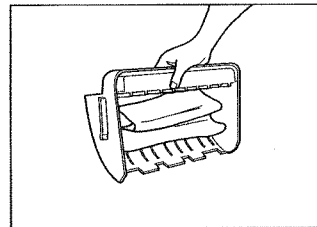
- 1 Lower the Paper Feed Tray.**
Press the FEED TRAY DESCENT key on the control panel.



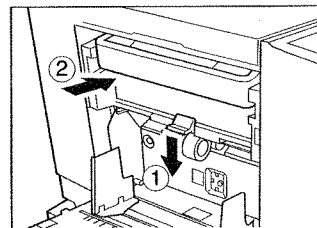
- 2 Pull out the Master Disposal Box.**
Pull out the Master Disposal Box while pressing down the Master Disposal Box Lock Lever.



- 3 Discard used masters.**



- 4 Insert the Master Disposal Box into position.**
While pressing down the Master Disposal Box Lock Lever, insert the Master Disposal Box into position as far as it will go. Then release the lever.



Advisory Displays

When the machine is not ready for use (when consumables are not installed, for example), an indicator flashes in the Check & Error Display. In some cases, it is accompanied by a related advice code which is indicated in the Print Quantity Display.

Beside the Check & Error Display, the Machine Monitor Display indicates the related location which should be checked on the unit.

If you need help in checking the unit, consult the following index and refer to the corresponding page.

When a corresponding advice code is required to find an advisory description concerning the current machine status, press the “*” key. The corresponding advice code will be indicated in the Print Quantity Display.

REPLACE MASTER ROLL Indicator

This indicator flashes when the Master roll is depleted.

Location	Code No.	Ref. Page.
No indication	None	p. 29

EMPTY DISPOSAL BOX Indicator

This indicator flashes when the Master Disposal Box is full of used masters.

Location	Code No.	Ref. Page.
No indication	None	p. 30

REPLACE INK CARTRIDGE Indicator

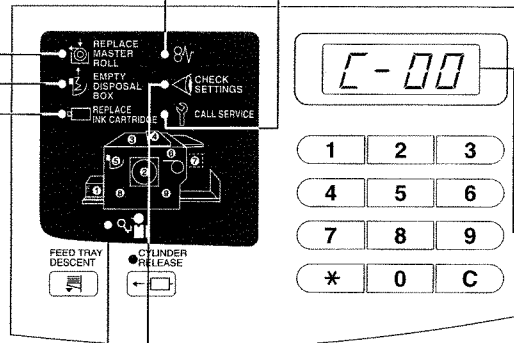
This indicator flashes when the Ink Cartridge is empty.

Location	Code No.	Ref. Page.
No indication	None	p. 28

Maintenance Call Indicator

This indicator flashes when the periodical maintenance service is required.

If this indicator flashes, contact your authorized service representative.



8v (JAM) Indicator

This indicator flashes when printing paper, originals, or masters get jammed inside the unit.

The Machine Monitor Display indicates the related locations.

Location	Code No.	Ref Page.
⑥	[C21]	p. 32
⑥	[C22]	p. 32
⑥	[C23]	p. 32
②	[C25]	p. 32
⑤	[C26]	p. 32
②	[C27]	p. 32
⑧	[C31]	p. 32
⑨	[C32]	p. 32
①	[C33]	p. 32
②	[C34]	p. 32
④	[C37]	p. 32
④	[C38]	p. 33

CALL SERVICE Indicator

This indicator flashes when a problem occurs.

If this indicator flashes, contact your authorized service representative and report the trouble code (E##).

Location	Code No.
No indication	E##

Code No. Display

CHECK SETTINGS Indicator

This indicator flashes when consumables or components are not set in place.

The Machine Monitor Display indicates the related locations.

Location	Code No.	Ref Page.
③	[C49]	p. 33
⑦	[C51]	p. 33
②	[C52]	p. 33
②	[C53]	p. 33
④	[C56]	p. 33
⑥	[C58]	p. 33
②	[C61]	p. 33
①	None	p. 33

8v	JAM Indicator
----	---------------

Location	Code Number	Description and Action
⑥	C21	Master has not been properly loaded on the Print Cylinder (Drum). Action Open the Master loading unit and rewind the Master roll. Reload Master. After closing the Master loading unit, press the ALL RESET [R•8v] key, then press the START key to restart the master-making operation.
⑥	C22	Master has misfed. Action Open the Master loading unit and rewind the Master roll. Reload Master.
⑥	C23	Master was not cut correctly. Action Pull out the Print Cylinder (Drum) to check whether a master was properly loaded on it. If not, remove the master and return the Print Cylinder (Drum) inside the unit. Then press the START key to restart the operation from master-making.
②	C25	A used master remains on the Print Cylinder (Drum). Action Pull out the Print Cylinder (Drum) and remove the remaining master. After returning the Print Cylinder (Drum) inside, press the START key to restart the master-making operation.
⑤	C26	A used master is stuck at the entrance of the Master disposal box. Action Pull out the Master disposal box and look inside the unit. If a master is present, remove it.

Location	Code Number	Description and Action
②	C27	There is no master on the Print Cylinder (Drum). Action Press the ALL RESET [R•8v] key. Then place an original on the Original feed tray and press the START key.
⑧	C31	Paper is jammed in the paper feed area. Action Remove the jammed paper from the paper feed area.
⑨	C32	Paper is jammed in the paper ejection area. Action Check paper ejection area and remove jammed paper.
①	C33	Printing paper was not fed, or was improperly fed. Action Check paper and the Paper feed tray and press the ALL RESET [R•8v] key.
②	C34	Paper has stuck to the Print Cylinder (Drum). Action Pull out the Print Cylinder (Drum), and remove the paper.
④	C37	An original is jammed at the entrance of the ADF unit. Action Open the ADF unit by holding the ADF unit release lever. Then remove the original and reload it.

Location	Code Number	Description and Action
④	C38	An original is too long for the ADF unit. Action Open the ADF unit by holding the ADF unit release lever. Remove the original. Reduce the size of the original and reload it.

NOTE TO PREVENT PAPER JAMS

* Use flat printing paper that is free of folds. If curled paper is unavoidable, place it so that the curl faces down.

☞ p.10

* When using smooth paper for printing, set the paper feed pressure adjustment lever to "CARD."

☞ p.12

 CHECK SETTINGS Indicator

Location	Code Number	Description and Action
③	C49	The Master disposal box is not properly installed. Action Insert it completely.
⑦	C51	An operator card is required to be inserted into the key/card counter (optional). Action Insert it properly.
②	C52	The Print Cylinder (Drum) is not properly installed. Action Slide it into place and confirm that the CYLINDER (DRUM) RELEASE indicator is lit.

Location	Code Number	Description and Action
②	C53	The Ink Cartridge is not properly installed. Action Place it in position.
④	C56	The ADF Unit is not properly closed. Action Close it tightly.
⑥	C58	The Master Loading Unit is open. Action Close it securely.
②	C61	This type of Print Cylinder (Drum) is not acceptable for this machine. Action Install a correct type. If you don't know what Print Cylinder (Drum) is the correct type, contact your service representative.
①	None	Paper is depleted and/or not loaded in the Paper feed tray. Action Load paper in the Paper feed tray.

Troubleshooting Tips

Check the following "Tips List" and the related items before calling your authorized service representative.

Tips List

• The unit does not start even when the power switch is pressed.	34
• The START key does not function.	34
• There is no image on copies.	34
• The unwanted background of an original is picked up on copies.	34
• Copies are incomplete; some images are missing or unclear.	34
• Printed images are excessively faint or blurred.	35
• Vertical blank lines are found on printed copies.	35
• The backs of finished copies are smudged with ink.	35
• Paper sticks to the surface of the Print Cylinder (Drum).	35
• Paper slips when it is fed.	35
• The Print Cylinder (Drum) is rotating slowly without feeding paper.	35

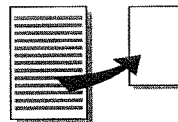
The unit does not start even when the power switch is pressed.

- Action** • Check whether the power cord is firmly connected to an electrical outlet.
- Check whether the power cord is connected to the unit.
 - Check whether the commercial power circuit breaker is on.

The START key does not function.

- Check whether the print quantity display is set to "0" with the Auto print feature activated.
- Action** Cancel the Auto print feature or enter the number of copies.

There is no image on copies.



- Check whether the original is correctly placed.


Action Be sure it is placed face down.
☞ p.15
- Check whether the master is correctly placed.

Action Be sure that it is placed with the leading edge unrolled from below.
☞ p.29

The unwanted background of an original is picked up on copies.



- If newspaper or colored paper is used as an original, the background might have been picked up on copies.

Action Press the MANUAL SCANNING CONTRAST Adjustment key [] to make the scanning contrast lighter. Then replace the original and press the START key.
☞ p.18

Copies are incomplete; some images are missing or unclear.

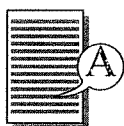


- The Scanner glass may be stained with correction fluid or glue.

Action Open the ADF unit and clean the Scanner glass using a soft cloth or tissue.
☞ p.36
- A foreign object may be on or under the master on the Print Cylinder (Drum).

Action Pull out the Print Cylinder (Drum) and remove the object.
☞ p.26

Printed images are excessively faint or blurred.




- If the machine is not used for a long period of time, ink on the surface of the Print Cylinder (Drum) may dry. Dry ink on the Print Cylinder (Drum) may cause faint or blurred printing.

Action Press the TEST PRINT key several times until a clear printed image is obtained.

☞ p.16

- Light originals result in light images.

Action Press the MANUAL SCANNING CONTRAST adjustment key [] to make scanning contrast darker. Then replace the original and press the START key.

☞ p.18

- If the temperature is low (below 59°F or 15°C) or the Ink cartridges are stored in a cold place, ink may not flow smoothly.

Action Warm the room or Ink cartridge before operating the unit.

Vertical blank lines are found on printed copies.



- The Thermal print head (the device that makes the master) may be smudged with paper powder from the master.

Action Open the Master loading unit and clean the Thermal print head using a soft cloth or tissue.

☞ p.36

The back of finished copies are smudged with ink.

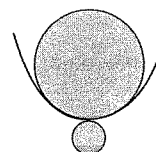


- The rubber Pressure roller, which keeps printing paper pressed against the Print Cylinder (Drum) during printing, may be stained with ink.

Action Remove the Print Cylinder (Drum) and clean the roller gently with a soft cloth or tissue.

☞ p.37

Paper sticks to the surface of the Print Cylinder (Drum).



Action • Use recommended printing paper.

☞ p.10

- Lower the vertical print position with the PRINT POSITION Adjustment key \triangleleft.

☞ p.19

- Replace the original in the reverse direction and restart printing from the beginning (master-making).

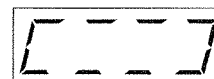
Paper slips when it is fed.

- Misfeeding of printing paper might have caused a paper jam.

Action Set the Paper feed pressure adjustment lever to "CARD."

☞ p.12

The Print Cylinder (Drum) is rotating slowly without feeding paper.



- Ink is being supplied for covering ink consumption during printing. During this operation, a rotation signal (as indicated to the left) appears in the Print Quantity Display. When a sufficient volume of ink is obtained for printing, the unit resumes printing operation.

Action Press the START key to finish your print job if the printing operation is not resumed.

☞ p.15

Cautions Concerning Maintenance

⚠ WARNING [To Avoid Personal Injury During Handling]

- DO NOT allow unauthorized persons to make adjustments or repairs.
- DO NOT remove any fixed covers.
- CALL your dealer immediately if you suspect any dangerous situations or have questions or problems with the unit.
- Precision parts and driving mechanisms are contained in the unit. Do not perform actions other than those described in this manual.
- Don't make any modifications to the unit or remove parts.
- When you want to move the unit, contact your dealer.

⚠ Caution [To Avoid Mechanical Problems]

- The best safety device is an alert person who demonstrates good sense.
- Neither RISO nor its dealer is responsible for maintenance service performed by non-RISO-authorized personnel.

Cleaning : Preventing Defective Prints

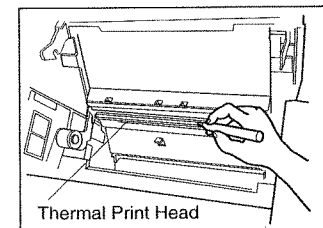
Cleaning the Thermal Print Head

Clean the Thermal Print Head after every two Master Rolls.

Lift up the Master loading unit. Then gently wipe the Thermal Print Head (inside the unit) several times with a soft cloth or tissue.

NOTE For more effective cleaning, dampen a soft cloth or tissue with a small amount of alcohol before wiping the Thermal Print Head.

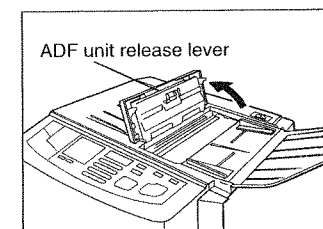
⚠ Caution Since the Thermal Print Head is very delicate, avoid shocks or scratching with a hard object.



Cleaning the Scanner Glass

1 Open the ADF unit.

Open the ADF unit while holding the ADF unit release lever.

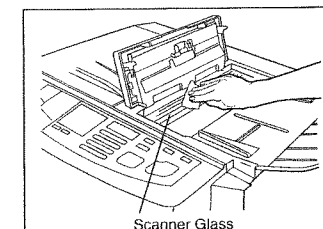


2 Wipe the Scanner Glass.

Gently wipe the Scanner Glass several times with a soft cloth or tissue.

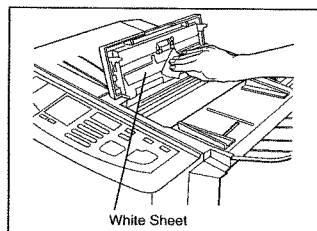
NOTE For more effective cleaning, dampen a soft cloth or tissue with a small amount of alcohol before wiping the Scanner Glass.

⚠ Caution Since the Scanner Glass is very delicate, avoid shocks or scratching with a hard object.



Cleaning the White Sheet

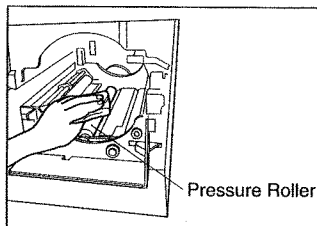
- 1 Open the ADF unit.
- 2 Wipe the White Sheet gently with a soft cloth or tissue.



Cleaning the Pressure Roller

If the rubber Pressure Roller that presses printing paper against the Print Cylinder (Drum) is stained, smudged strips may appear on the back sides of copies.

In such a case, wipe the Pressure roller thoroughly with a soft cloth dampened with alcohol, or pass used paper with a blank master loaded on the Print Cylinder (Drum) using the Confidential feature.

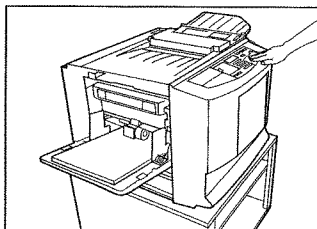


Cleaning the RISOGRAPH Exterior

To remove dust, wipe the machine exterior periodically with a soft cloth.

To remove stains, use an appropriate cleanser recommended by your authorized service representative.

- ⚠ Caution** The machine exterior is plastic. Never use alcohol or solvent for cleaning.



Optional Accessories

A variety of optional accessories are available to enhance the capabilities of your RISOGRAPH CR1630/CR1610.

Color Print Cylinder (Color Drum)

A variety of colors are available, such as blue, red, green, and brown. Each Print Cylinder (Drum) has its own case for storage.

p.26.....By exchanging the Print Cylinder (Drum), you can achieve multicolor prints.

Key/Card Counter III

This counter shows the numbers of printed sheets and consumed masters within a preset period of time. This can help you control costs.

Job Separator III

This accessory efficiently sorts groups of prints with strips of paper as they are printed. The Job Separator is attached next to the Paper Receiving Tray.

Computer Interface

The Computer Interface enables you to combine all the advantages of your desktop publishing software with the high speed efficiency and low cost printing benefits of your RISOGRAPH Digital Printer.

Specifications

– CR1630

Processing	High-speed automatic digital scanning/fully automatic, thermal screening duplicating system
Time to First Copy	Approx. 25 seconds (letter, or A4 original)
Print Speed	3 selectable print speeds (60 to 130 sheets per minute)
Scanning Resolution	300 x 300 dpi
Scanning Width	10.2" (260mm)
Original Input Type	Sheets
Original Size	3 1/2" x 5 1/2" (90 x 140 mm, A6 or postcard) to 10 3/4" x 15 1/2" (274 x 395 mm or B4)
Output Paper Size	3 1/2" x 5 1/2" (90 x 140 mm, A6 or postcard) to 10 3/4" x 15 1/2" (274 x 395 mm or B4)
Original Weight	15-lb bond (50 g/m ²) to 28-lb bond (107 g/m ²)
Paper Weight	15-lb bond (50 g/m ²) to 36-lb bond (157 g/m ²)
Image Area	B4 Cylinder (Drum) - 9.8" x 14.0" (251 x 357 mm)
Paper Capacity	Feed tray - 1,000 sheets (16-lb bond or 64 g/m ²) Receiving tray - 800 sheets (16-lb bond or 64 g/m ²)
Reduction Parameters	4 selectable reductions: 94%, 77%, 75% and 66% (94%, 87%, 82% and 71% for metric models)
Features	<ul style="list-style-type: none"> • Print speed control • Confidential mode • 2-Up/4-Up printing • Programmed printing • Photo mode • Duo mode • Interface capabilities • Scanning contrast adjustment (auto/manual) • Preventive maintenance call
Print Colors	A wide range of colors including: black, blue, red, green, brown, yellow, etc.
Optional Accessories	Color Cylinder (Drum), Job Separator III, Key/Card Counter III and Computer Interface
Power Source	USA Model: • 120 V AC, 60 Hz <3 A>
<Requirements>	Metric Models: • 110 V AC, 60 Hz <3 A> (110 V model) • 220-240 V~, 50/60 Hz <2 A> (220 V model)

⚠ WARNING Always check the rating plate on the machine before connecting the power.

Weight	Approx. 141 lbs. (64 kg)
Dimensions (W x D x H)	In use: 48.2" x 25.0" x 21.5" (1225 x 645 x 492 mm) In storage: 25.0" x 25.0" x 18.9" (635 x 645 x 479 mm)

NOTE The specifications are subject to change without prior notice. Please acknowledge that the illustrations and descriptions in this manual may differ from the actual machine, due to the change in specifications.

Specifications

– CR1610

Processing	High-speed automatic digital scanning/fully automatic, thermal screening duplicating system
Time to First Copy	Approx. 25 seconds (letter, or A4 original)
Print Speed	3 selectable print speeds (60 to 130 sheets per minute)
Scanning Resolution	300 x 300 dpi
Scanning Width	8.2" (210mm)
Original Input Type	Sheets
Original Size	3 1/2" x 5 1/2" (90 x 140 mm, A6 or postcard) to 10 3/4" x 15 1/2" (274 x 395 mm or B4)
Output Paper Size	3 1/2" x 5 1/2" (90 x 140 mm, A6 or postcard) to 10 3/4" x 15 1/2" (274 x 395 mm or B4)
Original Weight	15-lb bond (50 g/m ²) to 28-lb bond (107 g/m ²)
Paper Weight	15-lb bond (50 g/m ²) to 36-lb bond (157 g/m ²)
Image Area	Legal Cylinder (Drum) - 8.2" x 13.7" (210 x 349 mm) A4 Cylinder (Drum) - 8.2" x 11.4" (210 x 290 mm)
Paper Capacity	Feed tray - 1,000 sheets (16-lb bond or 64 g/m ²) Receiving tray - 800 sheets (16-lb bond or 64 g/m ²)
Reduction Parameters	4 selectable reductions: 94%, 77%, 75% and 66% (94%, 87%, 82% and 71% for metric models)
Features	<ul style="list-style-type: none"> • Print speed control • Confidential mode • 2-Up/4-Up printing • Programmed printing • Photo mode • Duo mode • Interface capabilities • Scanning contrast adjustment (auto/manual) • Preventive maintenance call
Print Colors	A wide range of colors including: black, blue, red, green, brown, yellow, etc.
Optional Accessories	Color Cylinder (Drum), Job Separator III, Key/Card Counter III and Computer Interface
Power Source	USA Model: • 120 V AC, 60 Hz <3 A>
<Requirements>	Metric Models: • 110 V AC, 60 Hz <3 A> (110 V model) • 220-240 V~, 50/60 Hz <2 A> (220 V model)

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NOTE The specifications are subject to change without prior notice. Please acknowledge that the illustrations and descriptions in this manual may differ from the actual machine, due to the change in specifications.

Index

Symbols and Numerals

- * key8, 23, 31
- 2-UP/4-UP key9, 21, 22
- 2-UP/4-UP printing
(different originals)21, 22
- 2-UP/4-UP printing (same originals)22

A

- accessories37
- adding paper12
- ADF unit (illustration)6
- ADF unit release lever6, 36
- adjusting print position, horizontal19
- adjusting print position, vertical19
- advisory displays31
- ALL RESET key8, 14, 20, 25
- Auto Idling Operation15
- AUTO PRINT key9, 17
- AUTO SCANNING CONTRAST
Adjustment key9, 18
- automatic printing17
- automatic sorting into groups23

B

- basic processes14
- beep, 15-seconds (place second
original)22

C

- C key8, 15
- CALL SERVICE indicator31
- carrier sheet11
- cautions, handling machine13
- cautions, installation5
- cautions, maintenance36
- Check & Error Display8, 31
- CHECK SETTINGS indicator31, 33
- cleaning pressure roller37
- cleaning (preventing defective prints)36
- cleaning RISOGRAPH exterior37
- cleaning scanner glass36

- cleaning thermal print head36
- cleaning white sheet37
- color cylinders26, 37
- color, print26
- color drum unit26, 37
- computer interface27, 37
- confidential documents, protecting27
- CONFIDENTIAL key9, 27
- control panel8, 9, 14
- copyright infringement, caution13
- CUSTOM SETTING key9, 25
- customizing initial settings25
- CYLINDER RELEASE key8, 26, 28

D

- defective prints, preventing36
- dimensions38
- discarding used masters30
- disposal box, master30
- documents, confidential27
- drum7, 14
- DRUM RELEASE key8, 26, 28
- drums, replacing26
- duo mode16

E

- EMPTY DISPOSAL BOX indicator31
- entering number of copies15
- environment, recommended5
- extension cord, capacity5

F

- features5, 38
- FEED TRAY DESCENT key8, 12
- feed tray paper guide lock lever6, 12, 19
- feed tray paper guides6, 12, 19
- flanges, master roll29
- front cylinder (drum) cover7
- front cylinder (drum) cover lever7, 26, 28

G

- groups, automatic sorting into23

H

- half-tone processing16
- handling machine, warnings and
cautions13
- horizontal print position, adjusting19

I

- Image processing mode select,
initial setting20
- Image Processing Selection key8, 16
- image contrast on prints, changing18
- initial setting, image processing
mode select20
- initial setting, master-making/print20
- initial setting, original scanning
contrast20, 25
- initial setting, print position20
- initial setting, print quantity display20, 25
- initial setting, print speed20, 25
- initial setting, size adjustment20
- initial settings, customizing25
- initial settings, return to20, 25
- injury, avoiding5, 13, 36
- ink cartridge7
- ink cartridge, cautions28
- ink cartridge, replacing28
- ink cartridge holder7
- ink cartridge release lever7, 28
- interface (computer)27
- INTERFACE key9, 27

J

- JAM indicator31, 32
- Job Separator III
(optional accessory)23, 25, 37

K

- Key/Card Counter III
(optional accessory)37

L

- location, recommended5

M

- Machine Monitor Display8, 31
- main control panel6, 8
- main power switch6
- Maintenance Call Indicator8, 31
- maintenance, cautions36
- MANUAL SCANNING CONTRAST
Adjustment key9, 18
- master disposal box, emptying30
- master disposal box lock lever6, 30
- master loading unit7, 29
- master loading unit release lever7, 29
- master roll7
- master roll, replacing29
- master-making14
- master-making/print, initial setting20
- MASTER-MAKING/PRINT key8
- mechanical problems, avoiding5, 13, 36
- misfeeds, preventing10

N

- number of copies, entering15

O

- optional accessories37
- original feed tray6, 14
- original guides6
- original guides, adjusting15
- original, placing15
- original receiving table6
- ORIGINAL SCANNING CONTRAST
indicator9, 18
- original scanning contrast, initial
setting20, 25
- originals, printing side by side21
- originals, reducing18
- originals, size recommendations11
- original stopper6
- originals, weight recommendations11

- P**
- paper, adding12
 - paper capacity38
 - paper feed pressure, adjusting12
 - paper feed pressure adjustment lever.....6, 10, 12
 - paper feed resistance, adjusting12
 - paper feed resistance adjustment lever.....6, 12
 - paper feed tray6, 12
 - paper jams, preventing10
 - paper receiving tray7, 13
 - paper, replacing12
 - paper, size recommendations.....10
 - paper stop7
 - paper, storing environment.....10
 - paper, weight recommendations.....10
 - photo processing16
 - power connections, recommended.....5
 - power switch, turning on14
 - preset reduction18
 - pressure roller, cleaning37
 - preventing defective prints36
 - print color, changing26
 - print colors38
 - print cylinder7, 14
 - print cylinders, changing26
 - print position, adjusting19
 - print position, initial setting20
 - PRINT POSITION Adjustment keys ..9, 19
 - PRINT POSITION CENTER key9, 19
 - PRINT POSITION indicator9, 19
 - Print Quantity Display8
 - print quantity display, initial setting ..20, 25
 - Print Quantity keys (0 to 9).....8
 - print quantity, minimum.....25
 - PRINT SPEED Adjustment key9, 20
 - print speed, changing20
 - PRINT SPEED indicator9, 20
 - print speed, initial setting20, 25
 - printing14
 - printing, automatic17
 - printing, side-by-side (different originals)21, 22
 - printing, side-by-side (same original).....22
 - printing, 2-UP/4-UP (different originals).....21, 22
 - printing, 2-UP/4-UP (same original).....22
 - processing, half-tone16
 - processing, photo16
 - PROGRAM key.....9, 23
 - programmed printing.....23
 - proof copies, producing16
- R**
- receiving tray paper guide adjustment knob.....13
 - receiving tray paper guides7, 13, 19
 - reducing originals.....18
 - reduction, preset18
 - replacing ink cartridge.....28
 - REPLACE INK CARTRIDGE indicator ..31
 - replacing master roll29
 - REPLACE MASTER ROLL indicator.....31
 - replacing paper12
 - repositioning print19
 - Reproduction Size indicator.....9, 18
 - RISOGRAPH exterior, cleaning.....37
- S**
- scanner glass.....6
 - scanner glass, cleaning36
 - scanning contrast, adjusting18
 - scanning resolution38
 - scanning width11, 38
 - side-by-side printing (different originals)21, 22
 - side-by-side printing (same original) ..22
 - size adjustment, initial setting.....20
 - SIZE ADJUSTMENT key.....9, 18
 - sorting into groups, automatic23
 - specifications38
- START** key8
- STOP** key8
- storing environment, paper10
- sub control panel6, 9
- T**
- temperature range, recommended5
 - TEST PRINT key8, 16
 - thermal print head.....7
 - thermal print head, cleaning36
 - troubleshooting tips (index).....34
- U**
- used masters, discarding.....30
- V**
- vertical print position, adjusting19
- W**
- warnings, handling machine13
 - warnings, maintenance36
 - warnings, power connection5
 - weight.....38
 - white sheet.....6
 - white sheet, cleaning37

